The Bristol Medico-Chirurgical Journal.

"Scire est nescire, nisi id me
Scire alius sciret."

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LISTER:

AN APPRECIATION BY

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WHILE the civilised world is mourning one of the supreme benefactors of the human race, who has passed away in a ripe and honoured old age, it may interest the readers of the *Journal*, especially its younger subscribers, to peruse some personal reminiscences of the man and his work by one who knew him intimately, and who worked under him in the later seventies, when he was still almost alone in his convictions and practice, the apostle of a new creed.

The present generation of young practitioners and students can form no adequate conception of surgical procedure or of the general aspects of surgical practice in pre-Listerian days. Cleansing of the skin, the hands and the instruments, now so

obviously indispensable before an operation, so simple and reasonable and necessary, would forty years ago have been generally regarded as a meaningless precaution, while the boiling of instruments would have excited amazement and ridicule. It was a common practice for an operating surgeon to keep an old coat in the theatre, bespattered with blood and pus, which he donned for his operations, so as to protect his ordinary garments from being soiled. Inflammation, suppuration, pyæmia, surgical emphysema, erysipelas, hospital gangrene—these, in more or less acute form and variety, were regarded as normal sequences of wounds, whether inflicted by accident or by the surgeon. True, such complications were less liable to appear in private than in hospital work, and much less common where ordinary cleanliness with soap and water was observed, and frequently changed water-dressings were used. Healing by first intention also was by no means unknown, for Sir Astley Cooper's admirable advice was not lost on intelligent operators—to keep substantial flaps in *close apposition*, and to avoid pockets and fissures. But with every known care and precaution the issue of an operation was always most uncertain. It was the beginning of a voyage on an uncharted sea, and it was many days before the surgeon could, without dread, steer his patient into a safe harbour. Still more precarious was the issue of an accidental wound. The general mortality of compound fractures in England was about 33 per cent. Injuries to joints generally required immediate amputation, and those of the peritoneum were practically always fatal.

My first experience of surgery was in the surgical wards of the Glasgow Royal Infirmary a few years after Lister had been transferred from there to the Chair of Clinical Surgery in Edinburgh University. The impression his great discovery had made in the very hospital where the "germ theory" had become the basis of a great new departure may be gauged by the condition of these wards. The smell on entering was foul in the extreme. Most of the patients were suffering from fever, dry tongue, restlessness, and great pain. In one bed lay a man

with a terrible lacerated wound from a circular saw. It was being treated by linseed poultices. Pus was oozing from the inflamed and swollen limb, the lymphatics of the arm were red and tender, and secondary abscesses were forming in the axilla. In another bed was a case of acute surgical emphysema of the scrotum following an operation, and so on. These experiences determined me to continue my studies in Edinburgh under Mr. Lister, whom I afterwards served as dresser, clerk and house-surgeon. The contrast there was extraordinary. Lister's wards were fresh and sweet. The wholesome odour of antiseptics was present, but never the sickly one of pus, or the horrid effluvia of putrefaction. Pyrexia, if it existed at all, was merely an occasional incident, and there was the same absence of acute suffering to which we are accustomed in modern days.

The clinical teaching in the lecture theatre was also of a novel kind. A few, a very few, " practical " students complained that instead of " tips " and useful details (all of which they could learn in the wards), they had to listen to frequent profound disquisitions on physiological and pathological truths, often illustrated by accounts of original experimental research. To students in a hurry the bearing of these facts and researches on their particular work, and especially their forthcoming examinations, was not immediately clear! On the other hand, the vast majority of men who thronged these benches, expectant and alert, fully recognised that what they listened to was of far-reaching significance, and that they were being grounded on the bed rock of scientific discovery. The style of the lectures, too—their pure, lucid, admirably selected English—was no inconsiderable element in their charm.

One has merely to glance at the list of papers on vitally important subjects which Lister had already published since his graduation as M.B. Lond. in 1852, enumerated in the *British Medical Journal* for February 17th, pp. 400, 401, to realise something of the quality of these lectures. In truth, it was the *principles* lying at the foundation of sound practice that were the professor's constant theme. Moreover, the new

experience under antiseptic treatment had shed a flood of light on the reparative processes in the various tissues—processes identical in open wounds with those taking place under an unbroken skin—while the hoary fallacies of "laudable pus," "benign inflammation" in surface incisions, "healthy exudations," etc., were exposed. Again, the extreme value of free drainage in certain cases, the distinction between "bare" and "dead" bone, the functions of granulation tissue as a provisional constructive covering, whose surface was secretory but not absorbent, the mechanism of counter-irritation, the method of securing a "bloodless operation" on a limb by simply raising it into the vertical position for a few minutes till the veins were empty and the arteries contracted in response to the lowering of the *vis a fronte*, when a sufficiently strong elastic ligature immediately applied at the requisite upper limit produced the bloodless condition desired.

Such were a few of the topics dwelt on, their practical application being daily seen in the wards. Even the most pragmatical student could not fail to be interested when, in opposition to all the text-books of the day, he saw the Master without a moment's hesitation cut into a sound joint and remove loose cartilages which were causing inconvenience, or treat that puzzling affection, gelatinous degeneration or "white swelling" of the knee-joint (not then, of course, recognised as tubercular), with notable prescience by free incision, drainage of the synovial sac, and rest.

Another phenomenon not previously known, but now clearly demonstrated, was the healing of a deep wound, such as that of a compound fracture, by the gradual "organisation" of blood clot, the young epithelium spreading from the skin edges and meeting over the surface of the clot without the intervention of granulation tissue.[1]

[1] A beautiful example of this process in non-traumatic conditions came under the writer's notice in practice. A diabetic gentleman was threatened with gangrene of one foot. The anterior tibial artery was found to be thrombosed in nearly its whole extent. The symptoms passed away, and the foot recovered. Four months afterwards at the autopsy

But let it not be for a moment supposed that Lister's teaching was in the least degree defective on the practical side. No more ingenious master of surgical handicraft, no sounder practitioner as such, was to be found. He was a bold and purposeful operator, but care and delicacy of detail rather than speed and "dash" marked his operations. The well-known abdominal tourniquet, the conical bulb-ended urethral sounds (part of the armamentarium of every modern surgeon), the beautifully-designed splint for the after treatment of his wrist-joint excision, were developments arising in the course of a most comprehensive surgical experience. There may be mentioned here the button sutures, or, as he loved to call them, "artificial finger-tips," which proved invaluable in relieving the tension on approximating sutures in cases where large amounts of cutaneous and muscular tissue had had to be removed. A double row of small leaden plates, about three-quarters of an inch in length by half an inch in breadth and perforated in the centre, were placed at a considerable distance from the incision, and were united by very deep silver wires carried through the substance of the neighbouring parts and twisted round the buttons, thus bringing the divided tissues together *en masse*.

On the subject of anæsthetics, Lister's article in Holmes's *System of Surgery* was for long the last word on that subject, at least as regards chloroform, the great principles being *free access of air* and careful watching of the breathing for possible mechanical obstruction. But we heard him declare not long after that the article was defective in so far as it laid insufficient stress on the toxic action of a powerful drug on the nerve centres, especially on the respiratory centre in the medulla. Those who imbibed Lister's teaching on chloroform administration gained thereby a possession which never could fail them in after life.

the whole thrombus was found to be organised and vascularised, and one considerable arteriole ran through its entire length. Needless to say, such an event would be impossible under any but aseptic conditions, but it was not uncommon as a visible reality in Lister's wards.

Though it may seem superfluous in these days, we venture to remind the younger generation that next to the epoch-making discovery of the causes of sepsis and the means of its prevention stands the introduction of the catgut ligature, sufficient of itself to render the name of Lister immortal. Is it necessary to remind men of the present day that previous to his time arteries were tied with long silk ligatures, which were allowed to hang out of the corner of the wound, and were pulled away one by one by the surgeon when he believed he could do so with safety ?

As an accomplished chemist Lister was tireless in improving his antiseptic methods, in trying new germicides, in simplifying procedure. He adhered strictly to the use of the much derided spray in operating and dressing, till advancing bacteriological knowledge had fully convinced him that organisms floating in the air were so attenuated as to be a *quantité négligeable*, while the source of actual danger was *inoculation* from skin, hands, sponges, instruments, etc.

When Lister, to the poignant regret of the whole Edinburgh School and all sections of society there, both rich and poor, accepted the invitation to succeed Sir William Fergusson as Professor at King's College, London, he still regarded the spray as essential. He had adopted a steam spray-producer, and the old " donkey engine " of his dressers—now in the writer's possession—had been discarded for the more efficient apparatus. A very few years afterwards the spray was finally abandoned. At that date, 1877, the dressing of an aseptic wound consisted first in bathing the surface with 1 in 40 carbolic solution, then a little strip of " protective " (green oil-silk which had previously been brushed over with a weak solution of phenol in dextrine to enable it to take a uniformly wet surface, and kept dry for use in a tin box) was dipped in the lotion and laid on the incision or the granulating wound, cut just large enough to *protect* the growing epithelium from the gauze dressing and its inherent carbolic acid. Over the surface was laid a thin wet layer of carbolised gauze, and then eight layers of dry gauze, the latter consisting of sheets of gauze which had

been dipped in a stable solution of phenol, in a mixture of resin and paraffin, dried and stored. Over all was a sheet of impervious jaconet, and finally the bandage, sometimes reinforced at the edges with an elastic webbing. Such a dressing could be safely left undisturbed from four to six days. Complex as the description may sound, in hands familiar with it the dressing was simple. By and by other and easier methods were evolved till *antiseptic* surgery had, in all but traumatic cases, become still further idealised into *aseptic* surgery.

At the time of which we write Lister stood absolutely alone among his contemporaries as the founder and elucidator of a world-shaking reform in surgical theory and practice. He had written many articles and delivered addresses sufficient to enlighten all who cared to be illuminated. But the impression made was simply trifling except among the Assistant Surgeons and other men of less stereotyped views. His hopes were all set on the young. It was they who saw before their eyes things never before seen. They followed him in crowds round his wards. They listened to his simple doctrines, and they could not fail not only to be convinced, but themselves to become active and warm disciples.

The strange want of appreciation on the part of his own colleagues was undoubtedly largely the product of a jealous conservatism and largely, no doubt, was due to the etiquette, or whatever else we may call it, which disallowed the visits of these men to wards where abundant cases far more eloquent than words provided absolute proof of the truth of the new doctrines.

But while the prophet was still without honour in his own country, young graduates were carrying the truth through the land and to the colonies, and delegates from such foreign schools as Copenhagen, Paris, Munich, Vienna, Rome frequently arrived, sat at the Master's feet, saw his practice, listened to his teaching, and returned to their homes filled with an over-mastering enthusiasm. The case of Munich was exceptionally remarkable, but space forbids us to enlarge upon it. Those who would study the whole course of events will find it in Lister's own

Presidential Address at the British Association, Liverpool Meeting, in 1896, published in full in *Nature*.

When Lister took up his duties at King's College Hospital he could not count on a single convert to his views among men of his own professional status in the Metropolis, while even the younger surgeons of that day knew very little of the subject. And yet at that very time his name in many parts of Europe was regarded with veneration as that of one of the great reformers of history, as, for example, in Rome, where a statuette of the Master had been placed over the entrance of the new *Policlinica*. He had wisely taken with him to London such stalwarts as W. Watson Cheyne, and John Stewart now of Halifax, Nova Scotia, who saw to the interests of his patients and educated the nurses, students, and even members of the staff with sometimes amusing, sometimes less jocular, results. It was characteristic of the man that, fearing lest several chronic patients in his Edinburgh wards, mostly spinal and hip cases, might be discharged uncured, he had them transferred to a good private lodging, and there maintained at his own expense and carefully attended by his private assistant, Dr. Bishop, until they could be returned healed to their homes in different parts of Scotland.

Happily for mankind he had inherited a fortune which rendered him largely independent of private practice, and the greater part of his time was usually spent in his wards and in his private laboratory.

This brings us to an important element of Lister's enormous influence on the young and impressionable, which has received far too little notice in any of the recently-published obituaries. We refer to the moral qualities of the man and his teaching. The spell which he exercised on many minds was due to a commingling in his personality of the pure white light of exact science to which his intellect was devoted with a most ardent humanity and sympathy with suffering. His touch was delicate as a woman's, and his usually placid brow was seldom darkened except by some careless and rough handling of a patient. In these wards conscience underlay every act. No

sloveniiness was allowed to pass muster, and even the insertion of a pin in a dressing was the outcome of the scientific conscience, as it was done in such manner as to secure the maximum of efficiency.

The wards were a school not only of the healing art, but of systematic kindness. His patients were not cases merely, but men, women and children, to whom, as members of the human family, full respect and consideration were due. Again, while he was the target of frequent misrepresentation, and even contemptuous allusion by men who should have known better, his chivalry and courtesy remained untarnished, and he treated his opponents with a generosity and an amiable tolerance which used to astonish his students. To the latter he was, above all men, the knight *sans peur et sans reproche*, and they rejoiced in that hero-worship which close contact with him inspired.

One thing which roused him to something like fury was quackery in any form. All unreality, pretentiousness, self-advertisement, claims to exceptional wisdom and knowledge, were to him anathema. He would often sadly declare that the worst quacks were those inside the boundaries of the medical profession. But he regarded those unscrupulous tricksters who filled their purses at the expense of credulous patients during long courses of absolutely worthless treatment as almost outside the pale of humanity.

In middle life Lister was a man of active and agile figure. He was a tennis-player and a rider. His face was not so much handsome as genuinely beautiful, for the features were delicately chiselled, the mouth very firm but very mobile, and often relaxing into a peculiarly charming smile, and the eyes thoughtful, penetrating and expressive. In his last years he allowed his beard and moustache to grow, and his face thereby became so altered as to be hardly recognisable except by those who had watched the change. Like the greatest men in science, the Newtons and the Kelvins, Lister was truly modest. Personal vanity or self-consciousness he did not seem to possess, and though virile and powerful in speech and action, he was, as his

colleague, Professor Blackie, once said to the writer, a "virgin-minded man."

His work was done in deadly earnest, but not infrequently he would condescend to a little friendly chaff with his dressers, or with boyish merriment talk about "antisceptics," or in allusion to his preference for chloroform over ether, would laughingly quote the couplet:—

> "How happy could I be with *either*,
> Were t'other dear charmer away!"

The multitudinous honours which afterwards were showered upon this great man were never allowed to alter in the slightest degree his simple, kindly manners and warm interest in his old friends and pupils. To the writer, as he joined in the throng of mourners who attended the deeply impressive funeral service at Westminster Abbey, the dominant thought was the triumph of truth and character over indifference, hostility, time and distance. Thirty-five years ago this man, fired with love of scientific truth and love of his kind, was calling to deaf ears. To-day every scientific body, every University, almost every Government, bow their heads in silent recognition and profound mourning.

The great sorrow of his life came in 1893, when he lost the dearly-loved partner of his life. Lady Lister, a daughter of Professor Syme, had been from the first the support of his labours, the light of his home, the comrade of his fighting days, and his one and only assistant in all laboratory work. He was desolated by the loss, but his high Christian hopes and deep religious faith made him conqueror here as he had already been in relation to science and humanity.

DIRECT LARYNGOSCOPY, BRONCHOSCOPY AND ŒSOPHAGOSCOPY.

BY

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BRONCHOSCOPY owes its inception to Killian of Freiberg and to Von Schrötter of Vienna, while other laryngologists—more particularly Chevalier Jackson and Brüning — have developed and modified the earlier instruments, both for the direct inspection and treatment of the larynx, bronchi and œsophagus. For the removal of foreign bodies from the trachea, bronchi and œsophagus, we now usually resort to direct inspection and removal through the mouth; while for diagnostic purposes, the direct inspection of neoplasms and the removal of fragments for histological examination, dilation of strictures, etc., bronchoscopy and œsophagoscopy have proved of the greatest value. Nothing illustrates more forcibly the far-reaching possibilities of these newer methods than the successful removal of a nail from the second division of a bronchus, and the introduction of a gold collar to overcome the cicatricial contraction that had arisen from the long-continued presence of the nail, a feat accomplished by Killian five years ago. The object of this article is to indicate very briefly the main points in the technique without entering on later developments, such as Brüning's tracheo- and broncho-graphy.

FIG. 1.

Œsophagoscopic appearance of a malignant growth causing stricture 20 c.m. from the teeth. (AUTHOR'S CASE.)

Direct Laryngoscopy, Bronchoscopy and Œsophagoscopy.

Direct Laryngoscopy. — Kirstein in 1894 introduced the method of inspecting the larynx without the intervention of a mirror to reflect the light thrown into the back of the throat, so that the inspector's eye could look directly at the larynx instead of at its inverted image in a laryngoscopic mirror, the Kirstein method being termed direct laryngoscopy in contradistinction to indirect laryngoscopy.

Light.—Instead of using a concave forehead mirror, whereby the light is focussed on to the laryngoscopic mirror, Kirstein invented a lamp which reflects parallel rays from a small plane mirror attached to a forehead band. Kirstein's lamp is very convenient for use with short tubes, and is therefore often preferred for inspection and for operations on the larynx, a Brüning or a Schrötter lamp, or one with the light at the distal end, *e.g.* Chevalier Jackson's lamp, being reserved by some operators for the deeper lying trachea, bronchi or œsophagus.

Brüning has introduced a forehead lamp to replace Kirstein's. It is like a small Klar focus lamp, and gives a more powerful light than Kirstein's.

The fish-tailed tube spatula devised by Killian is perhaps the most convenient form for general use. One disadvantage in Killian's spatula lies in the fact that the handle being at right angles to the spatula it is not so easy to exert continuous traction on the distal end, so as to draw the hyoid bone and the structures at the base of the tongue forward without levering the instrument against the upper incisors. Hence Jackson introduced a double-rectangular tube spatula, with the handle parallel with the spatula, the form of handle adopted by Brüning.

Technique.—Before referring to the different methods of using these various direct laryngoscopic lamps, the question of local anæsthesia may be considered, for even when a patient is placed under general anæsthesia it is necessary to partially anæsthetise the fauces and larynx and, when the air passages are particularly irritable, to overcome retching and glottic

spasm. It is well to follow Killian's recommendation to give a small dose of morphine, or in the case of a child codein, hypodermically about one hour before the operation.

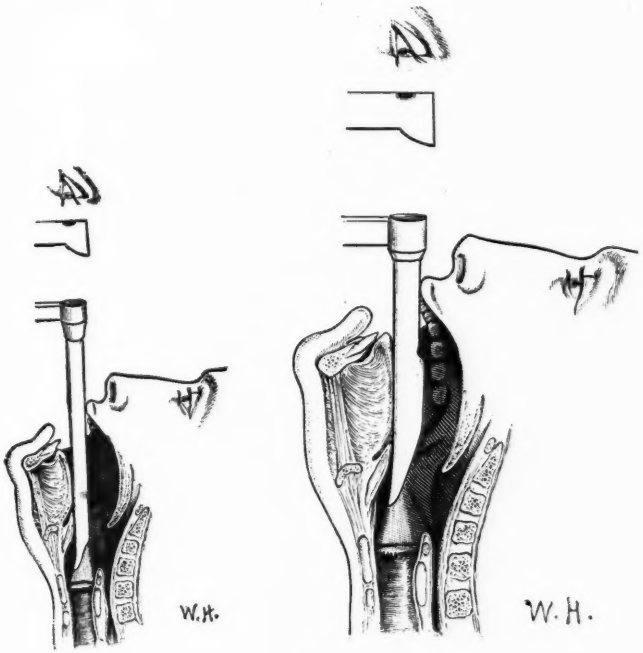


FIG. 2.

DIAGRAM OF DIRECT LARYNGOSCOPY.

The larger figure shows the laryngoscopic tube-spatula. The smaller figure, on the left, shows the tracheal tube-spatula in use, prior to its being passed between the vocal cords, after which the extension tube is passed through the lumen of the tube-spatula for entering a bronchial tube. (WM. HILL.)

Direct laryngoscopy under local anæsthesia is generally possible in most adult patients. A 10 to 20 per cent. solution of cocaine hydrochlorate may be used, with or without a small percentage of suprarenal extract, which is advocated in order to prevent to some extent general absorption of the cocaine. I generally use 20 per cent. cocaine solution without any

adrenalin, as it acts more quickly, and appears to be less likely to cause symptoms of cocaine poisoning than double the quantity of the weaker solution, and this has the advantage of avoiding the possibility of local trouble from the after effects of adrenalin.

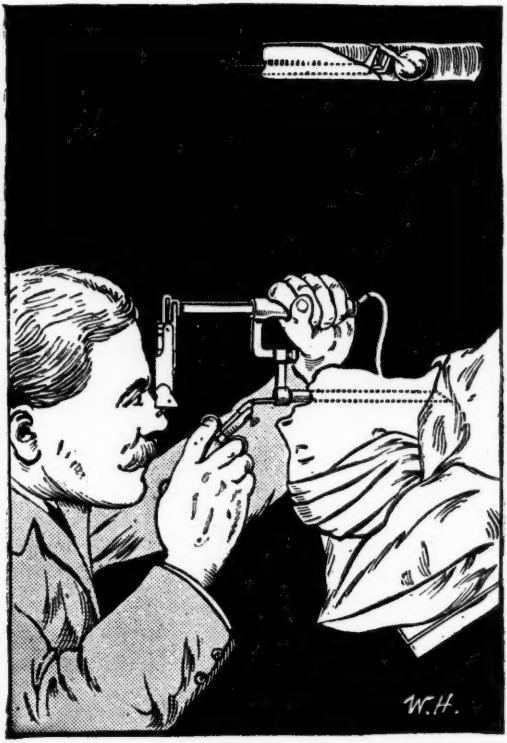
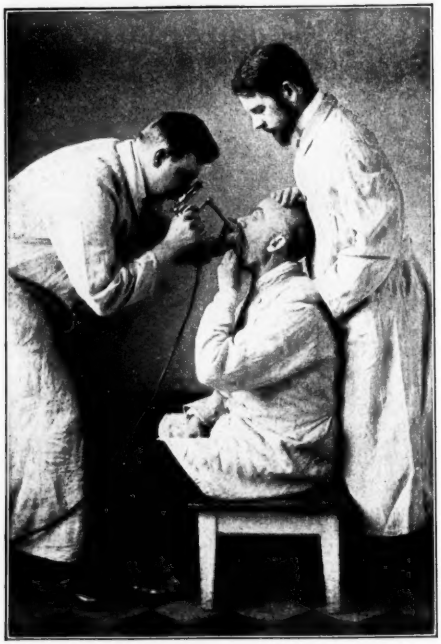


FIG. 3.

Direct Laryngoscopy for removal of a subglottic growth in a child under general anæsthesia. (WM. HILL.)

A very small quantity is sprayed on to the fauces, and a few minutes later the cocaine is sprayed directly into the larynx by means of a fine laryngeal spray. As soon as the supraglottic



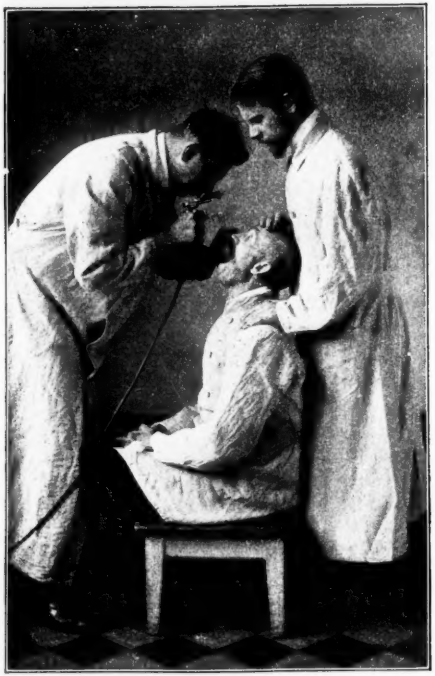


PLATE I.

BRONCHOSCOPY IN SITTING POSTURE OF PATIENT.

FIG. A. FIRST STAGE.

The patient holding his tongue out with the left hand, while the tube spatula is passed over the epiglottis in an oblique direction. (BRÜNING.)

FIG. B. SECOND STAGE.

The tube spatula having been passed behind the epiglottis, its direction is altered so as to pass vertically downwards into the trachea. (BRÜNING.)

portion of the larynx is anæsthetised more cocaine is applied by a laryngeal swab passed between the vocal cords. In three or four minutes the patient is then ready for direct inspection.

Position of the patient and examiner.—The patient's collar, and all tight garments, stays and so forth, having been loosened, inspection may be made with the patient sitting up or lying on a table. In the former case the patient sits on a low stool about twelve inches high, a nurse or assistant standing behind so that the patient's back is supported by the assistant's knees, while the patient's head is extended well back and supported in that position by the assistant's hands, as shown in the accompanying illustrations. The examiner stands in front of the patient, holding the lamp in the right hand, while the left is used to raise the upper lip or moustache should they be in danger of being caught between the tube and the upper incisor teeth.

The tube spatula having been passed behind the epiglottis, its direction is altered so as to pass vertically downwards into the trachea. (Brünings.)

When the patient is examined lying down, under local anæsthesia, the right or left lateral position is chosen.

It is well to come to a definite understanding with the patients that, if for any reason they feel they cannot tolerate the continuance of the inspection, the instrument will be withdrawn at a given signal, and on no account should such a pre-arranged signal be disregarded. While this is the more essential in bronchoscopy and œsophagoscopy, when it is obvious that only by the absolute confidence of the patient being maintained is it possible to safely pass a long stiff metal tube into the trachea, bronchus or œsophagus, it is also helpful in the simpler procedure of laryngoscopy. If the patient is absolutely convinced that at any moment he gives the signal the instrument will be withdrawn, he has courage to tolerate their introduction as long as possible.

The patient holding his tongue out with the left hand, while the tube spatula is passed over the epiglottis in an oblique direction. (Brünings.)

With the lamp lighted, the tube spatula should be guided nearly horizontally to the posterior pharyngeal wall, and then directed vertically down behind the epiglottis, which the end of the spatula is made to press forwards till the arytenoid eminences and then the vocal cords are brought into view,

so that the whole of the larynx and the infra-glottic trachea come under inspection.

The tube spatula for an adult should be about 15 to 20 c.m. in length (6 to 8 inches), but for children one about 15 c.m. (6 inches) long, or somewhat less, is sufficient; the laryngeal end, however, is narrower for children, as the small larynx will not allow of the introduction of the wider tube suitable for adults. But owing to the small size of the larynx in very young children, the narrowness of the glottic chink, and the delicacy of the mucous membrane, it is often convenient and sometimes safer to use a laryngeal tube spatula with a bifid extremity, which is placed in the glosso-epiglottic fossæ, so that the base of the tongue being drawn forwards the epiglottis is raised and drawn forwards at the same time, so as to give a good direct view of the larynx.

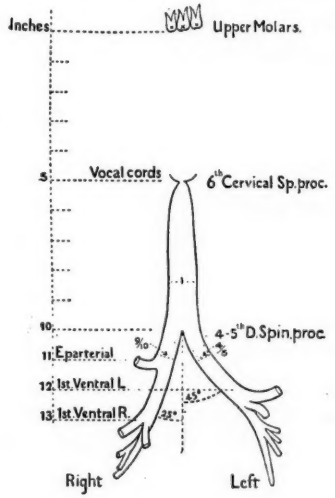


FIG. 4.

Scheme showing average measurements in adult males from the upper molar teeth to the bifurcation of the trachea, etc. (after WAGGETT).

In order to overcome the difficulty of operating through a very narrow tube I have devised one with a distal end narrow enough to allow of its introduction into the larynx of children from five years onwards, but with a lumen of one inch wide at the proximal end, the lumen tapering to laryngeal end. This not only facilitates the introduction of instruments at the side of the lumen, so as not to obstruct the view of the operation field, a point of great importance in the case of very young children, but has further the great advantage of allowing binocular vision.

PLATE II.

TRACHEO-BRONCHOSCOPY IN THE DORSAL POSTURE.

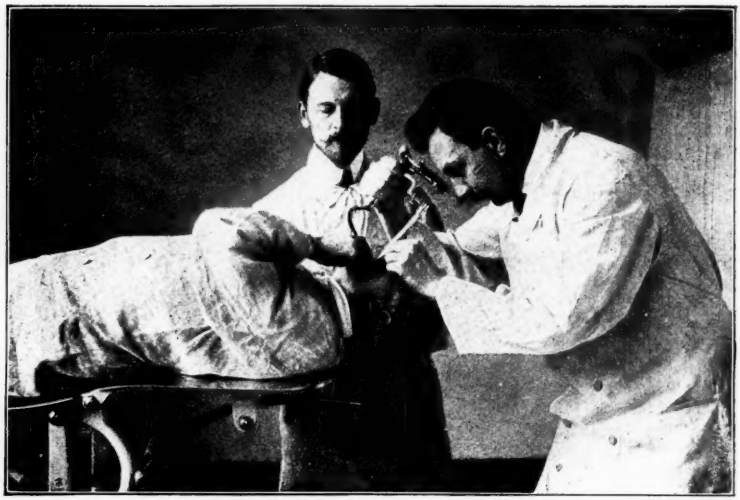


FIG. A. STAGE I.

Note the oblique direction of the instrument when being passed behind the epiglottis. (BRÜNING.)

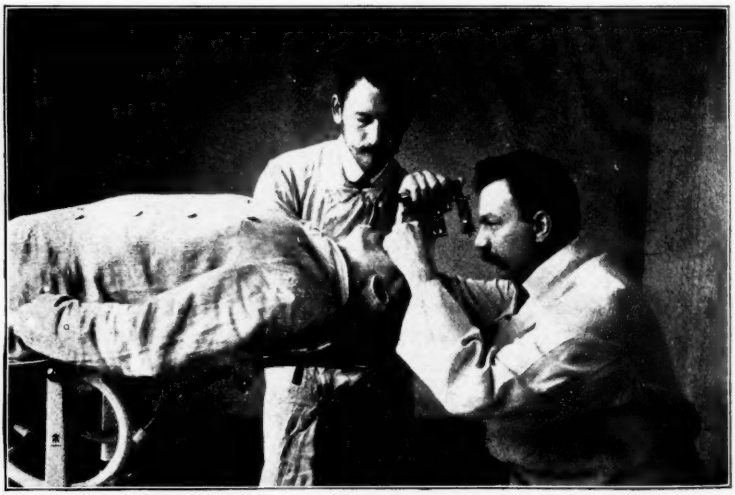


FIG. B. STAGE II.

The tube spatula having entered the larynx, the patient leaves hold of the tongue, while the tube is passed horizontally through the glottis into the trachea. (BRÜNING.)

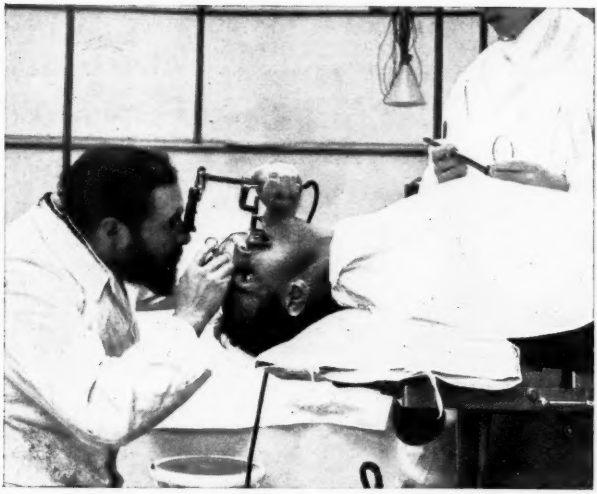


FIG. A.

Position for exploring and operating under chloroform on the larynx and air passages. In œsophagoscopy and gastroscopy the patient's head must be held by an assistant to facilitate raising and lowering as the end of the tube advances through the various curves of the gullet. (WM. HILL).

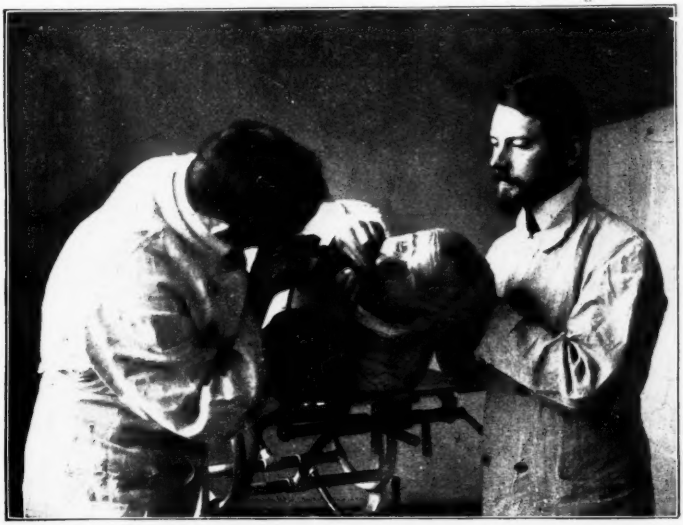


FIG. B.

Tracheo-bronchoscopy in the left lateral posture. (BRÜNING.)

General anæsthesia is seldom required for diagnostic purposes in the adult, but is nearly always necessary in the case of children. But with nervous patients it is usually necessary to resort to general anæsthesia for operations on the larynx by the direct method.

For direct laryngoscopy under general anæsthesia the patient may be in the dorsal, right lateral, or left lateral position. In a child the head is more readily extended, and with the head hanging over the end of the table the dorsal position is usually most satisfactory; but the lateral position is generally to be preferred in adult patients; whether the patient is made to lie on the right or left side is largely a matter of custom. In Germany the right lateral position is usually preferred, but I find the left lateral position is the more convenient, as it appears to me easier to guide the laryngeal spatula with the left hand, with the patient in this position, leaving the right free for manipulations, whereas in the right lateral position, either the left hand must be passed over the patient's face, so as to grasp the handle of the lamp with the back of the hand uppermost, or else the spatula is passed with the right hand, and then, when the larynx is exposed, the hands are changed so as to set free the right hand for manipulations.

Direct Tracheoscopy and Bronchoscopy.—In superior bronchoscopy the tube is introduced through the glottis, and thence into the right or left bronchus, and even in rarer conditions into the second divisions, whereas in *lower bronchoscopy*, the tube is introduced through a tracheotomy wound. In the former case the diameter of the tube is restricted by the dimensions of the glottis, and the tube has a longer path to traverse before it reaches the end of the trachea than in lower bronchoscopy, which has the advantage of allowing a tube of greater diameter. Obviously the diameter and length of the tube that can be employed depends on the age of the patient, whether a preliminary operation has been performed or not, and on the situation of the foreign body or lesion.

	Average Distances from*		Diam. of Tube.	Diam. of Trachea.	Diam. of R. Bron.	Diam. of L. Bron.
	Incisors to Vocal Cords.	Vocal Cords to Bifurcation.				
Adult Man	11 c.m. or $4\frac{1}{2}$ in.	11 c.m. or $4\frac{1}{2}$ in.	9 to 11 m.m.	16 to 23 m.m.	15 to 22	20
Child, 10 years ..	..	..	..	10 m.m. or in.	..	..
Child, 5 years	..	..	..	5 m.m. or $\frac{1}{5}$ in.	..	..

* From data cited by Waggett, Allbutt's *System*, vol. iv.

For *superior bronchoscopy* a tube spatula with a bevelled end is introduced under inspection through the glottis. The patient slightly retracts the head and holds the tongue out with the left hand, until the instrument has been passed over the epiglottis. Then the patient lets his tongue go, and retracts his head as far as he can while the spatula is directed in a more vertical direction downwards through the glottis. Of course, under general narcosis the holding of the tongue and extension of the head is carried out by an assistant.

With the Brüning instrument for adults, use a tube about 18 to 22 c.m. long and 9 m.m. in diameter; for children about 13 to 18 c.m. long and 7 m.m. or less in diameter; then, having further cocainised the lower trachea, the corresponding extension tube is passed down inside the tube spatula as far as may be necessary, until the foreign body, etc., is reached, either in the trachea, right or left bronchus, as the case may be. Swabbings may be required to sponge out the mucus. This is readily done by passing the previously prepared cotton swabs on the long holders. Needless to say, great care must be observed to ascertain that the swab is firmly fixed before it is introduced.

The carina, or division between the two main bronchi, is to the left of the tracheal axis, and the right bronchus diverges so much less than the left so as to seem to be more or less a continuation of the trachea, while the left bronchus diverges at a greater

PLATE IV.

FIG. A.

Direct tracheoscopy in dorsal position, Killian's tube spatula. (KILLIAN.)

FIG. B.

Direct tracheoscopy with Killian's tube, sitting posture. (KILLIAN.)

angle from the perpendicular. Hence foreign bodies are much more prone to find a ready entrance into the right bronchus than the left.

These facts should be borne in mind when one has to introduce the bronchoscopic tube into the right or left bronchus. Hence if the patient's head be tilted to the right as soon as the tube has passed down the trachea to near the lower end, while at the same time the proximal end is brought well over to the right of the middle line, causing the distal end to draw the lower end of the trachea towards the left, the tube as it passes obliquely down is made to enter the left bronchus. There is seldom much difficulty in passing the tube into the right bronchus, but in order to avoid injuring the carina one reverses the direction of the instrument, making the head and upper end tilt to the left so as to direct the lower end towards the right bronchus.

Lower Bronchoscopy, or bronchoscopy through a tracheotomy wound, is much simpler and easier than superior bronchoscopy, but involves a previous tracheotomy. Occasionally this can be done at a sufficient interval before the examination with the bronchoscope to enable the wound to heal, but more usually the passage of the bronchoscopic tube is for the immediate removal of a foreign body which cannot be extracted *per vias naturales*. Under these circumstances it is important to cause as little bleeding as possible, hence Waggett urges the desirability of the bloodless method; that is to say, after the incision of the skin the operation is completed by a pair of blunt hooks, retracting the soft tissues until the trachea is exposed and incised, the thyroid isthmus, if necessary, being divided and ligatured.

Œsophagoscopy.—Before introducing the œsophagoscope the lower end of the pharynx should have been inspected by an ordinary laryngoscopic mirror, and in addition such information as may be gathered from von Eicken's method of hypopharyngoscopy is always desirable, so that the existence of any ulceration or growth in the post-cricoid region is already known. Moreover, the patient should have been carefully examined for

any indication of aortic aneurysm, mediastinal tumour, or other lesion which might add to the risk of œsophagoscopy. To obviate trouble from the regurgitation of food during the examination, the patient should have fasted for at least four hours, and it is an advantage, especially with nervous patients, to have injected a small dose of morphine about an hour before the examination, as recommended by Killian for bronchoscopy.

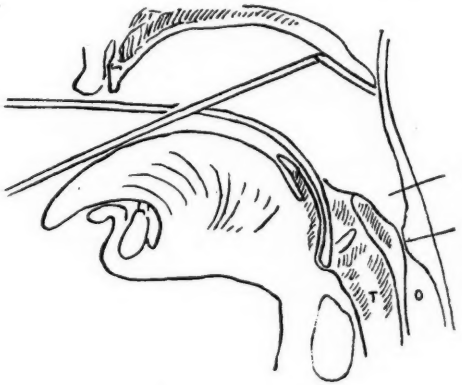


FIG. 5.

Diagram showing position of the laryngoscopic mirror in viewing the hypopharynx, which is exposed to view by the forward traction exerted by means of Von Eicken's probe inserted between the glottis so as to draw forwards the hyoid bone.

The patient may be in the sitting position, or lying on a table in the right or left lateral position, and, as in bronchoscopy, the patient's collar, and of course any tooth plate, must be removed, and all tight clothing about the neck loosened. In the sitting position the same low stool is required, and the patient is supported by an assistant from behind. If the patient is on his side, lying on a table, the head should project over the end, supported by an assistant, so that it can be elevated or lowered as the tube is passed down the varying curves of the œsophagus.

The œsophagus in the adult male has a diameter of approximately one inch, but except at the extremities it is very

distensile. At the upper end, behind the lower border of the cricoid cartilage, it is a transverse slit, and its cardiac end is a slit lying obliquely from behind, forwards, and to the left. Its long axis passes slightly to the left, from above downwards, the average distances from the teeth to the cricoid and thence to the cardia being given in the table appended.

The œsophagus is fairly tolerant of the passage of the tube, but the fauces and lower pharynx may be rendered insensitive by cocaine, 10 per cent. solution sprayed sparingly, a small quantity being swallowed by the patient making the introduction of the tube down the œsophagus much more readily borne.

For an adult one should begin with a short tube, say 26 m.m. long by 13 m.m. diameter, warmed and oiled, and having a closely-fitting, soft, round-ended bougie, introduced so that it projects for an inch or two through the lower end of the lumen.

In the case of a patient sitting on a stool, the operator faces the patient, holding the lamp and tube in his right hand; the left forefinger may be introduced into the patient's right pyriform fossa, the tube with the projecting bougie being passed backwards through the right angle of the mouth, and guided by the finger-tip backwards into the pharynx.

Up to this point the patient's head is very slightly extended, thus differing from the position in bronchoscopy; but as soon as the bougie passing behind the cricoid cartilage enters the œsophagus the left forefinger is withdrawn, the patient is told to swallow, and the head is more extended as the tube is gently passed down and the bougie withdrawn. Thereafter the downward passage of the tube is guided by inspection, careful note being made of any abnormality in the œsophagal walls, and as the tube is gradually withdrawn the walls of the œsophagus are again subject to inspection. If no obstruction has been encountered, and the seat of lesion is farther down, a second tube of greater length is re-introduced down to and through the cardia, any mucus or gastric contents which regurgitate into the lumen being removed by swabbing or by means of the suction pump.

FIG. 6.

Diagram (after Waldeyer-Joessel) to show the relation of the œsophagus to the trachea left bronchus and aorta, and especially to call attention to the curve to the left of the subphrenic portion. (WM. HILL.)

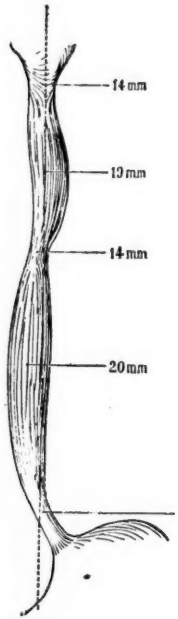


FIG. 7.

Diagram (after Corning) to show the various curves and constrictions of the œsophagus. Where the lowest horizontal line meets the dotted line marks the level of the hiatus œsophagus of the diaphragm; below this the subphrenic gullet deviates to the left. This deviation must be borne in mind in passing the outer œsophago-gastric tube through the lower part of the gullet into the stomach. Perforations have taken place in this region from incautious instrumentation in ulcerative conditions such as cancer. (WM. HILL.)

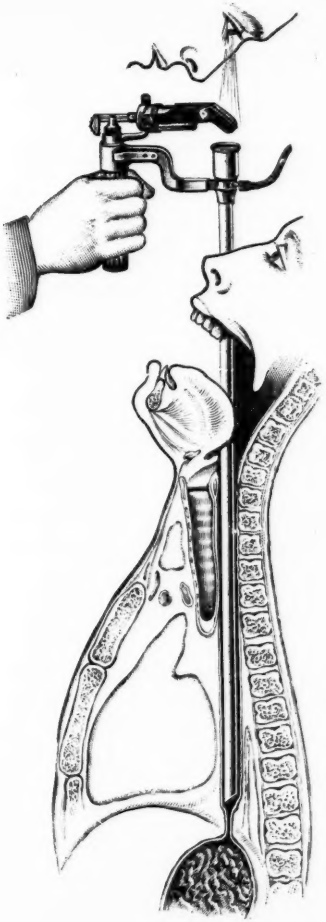


FIG. 8.

Dr. Wm. Hill's direct-vision inflation œsophago-gastroscope. The distal end of the tube is seen approaching the phrenic constriction. After the instrument has been passed into the stomach and the region of the cardia explored, with or without inflation, the Brüning handle-lamp is removed, and Killian's handle substituted. The window is also removed, and the perforated cap with rubber valve inserted in its place. The periscope can then be safely passed through the hole in the cap and down through the outer tube into the stomach. (WM. HILL.)

While the use of a bougie undoubtedly renders the passage of the tube past the cricoid constriction very much easier, it is not essential, the whole of the procedure being then conducted under inspection. This has the advantage of enabling the operator to pass under review the post-cricoid region and the upper end of the œsophagus as the tube enters, and when this region is the seat of a soft, friable growth, or a foreign body, it enables one to get a view of it before bleeding is started or the foreign body has been displaced.

Again, one may dispense with the forefinger to guide the bougie or tube into the lower pharynx, the patient's tongue being drawn forwards instead by the patient's own left hand or that of the operator. In either case the tongue is released as soon as the bougie or tube has passed below the cricoid and the moment has arrived for the greater extension of the patient's head, so that the tube may be passed downwards towards the cardia.

Although it is convenient to pass the tube from the front of the patient's mouth until the distal end reaches and passes the pyriform fossa, its position is shifted to the right angle of the mouth, as it is passed down, in order to follow the direction of the œsophagus downwards and to the left.

William Hill has improved on the œsophagoscopes of Jackson and Brüning by the large proximal end which tapers towards the distal end, and by the lateral slit, both of these features aiding the introduction of instruments, radium tubes, etc.

BRÜNING'S TUBES.

No.	Diameter in m.m.		Length in c.m.		Suitable for Superior Bronchoscopy for
	Tube Spatula.	Inner Tube.	Tube Spatula.	Combined Tubes.	
2	12	11	20	40	Adult males and females.
3	10	9	18	37	Women, and children above 10 years.
4	8.5	7.75	14	30	12th to 4th year.
5	7	6.25	11.5	23	Up to 6 years.
1	14	13	25	50	Œsophagoscopy.

TABLE OF DISTANCES (BRÜNING).

	Men.	Women.	Child (aged 10)
From upper incisors to glottis	14 c.m.	13 c.m.	10 c.m.
From glottis to bifurcation	12 c.m.	10 c.m.	7 c.m.
From upper teeth to bifurcation	26 c.m.	23 c.m.	17 c.m.

TABLE OF DIAMETERS (BRÜNING).

	Men.	Women.	Child (aged 10).	Infant.
Trachea	15 to 22 m.m.	13 to 18 m.m.	8 to 11 m.m.	6 to 7 m.m.
Right main bronchus.	12 to 16 m.m.	10 to 15 m.m.	7 to 9 m.m.	5 to 6 m.m.
Left main bronchus.	10 to 14 m.m.	9 to 13 m.m.	6 to 8 m.m.	4 to 5 m.m.
Extreme width of glottis.	12 to 15 m.m.	10 to 13 m.m.	8 to 10 m.m.	5 to 6.5 m.m.

I am indebted to Prof. Killian, Dr. Brüning, Dr. Wm. Hill and Dr. Waggett for the loan of photographs, blocks and illustrations; and to Dr. Brüning for permission to reproduce the plates Nos. I, II and III (Fig. B) from *Die Direkte Laryngoskopie, Bronkoskopie u. Œsophagoskopie* (Verlag von J. F. Bergmann in Wiesbaden).

A CASE OF CHRONIC INTERSTITIAL PANCREATITIS OF UNCERTAIN ORIGIN.[1]

BY

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THE following case was most obscure from the clinical point of view, and the diagnosis was not made during life. This is not surprising, as according to the last edition of Allbutt's *System of Medicine* "the vast majority of cases of fibrosis of the pancreas are only discovered on the *post-mortem* table." Moreover, in this case

[1] Read at the meeting of the Bristol Medico-Chirurgical Society, December 13th, 1911.

the signs that give most aid in such a diagnosis were absent, as also were the usual causes of the disease. The patient was a teetotaller, and had always lived a very quiet life. There was no history of any severe abdominal illness or injury, or of any affection of the gall-bladder or ducts. There was also no jaundice throughout the illness; the absence of this symptom materially adds to the difficulty of diagnosis of chronic indurative disease of the pancreas. But perhaps what added to the difficulty more than anything else was the character of the stools: they were dark in colour throughout, and consisted of small scybalous masses. As enemata were mostly used to secure an evacuation, the stools were constantly seen. I think it was the absence of the large, soft, and sometimes pale stools, rich in undigested fat, that commonly characterise disease of the pancreas that diverted one's attention from this organ. It is worth while to bear in mind the lesson of this case, that a fibrosis of the pancreas progressing steadily to a fatal termination may be associated with dark, scybalous evacuations without naked-eye evidence of fat, and the necessity of further investigation of the fæces in the laboratory in a case of similar obscure abdominal disease. I do not attach much importance in the diagnosis to the absence of glycosuria; when present, it is an aid, but it is frequently absent in pancreatic diseases. The lesion suspected during life was malignant disease, probably of the stomach.

Looking back upon the case, the chief diagnostic features were the severe epigastric pains and attacks of vomiting, not distinctly related to food, and in the absence of any lesion of the gall-bladder or ducts and of enlargement of the liver, the persistent anorexia, the epigastric tenderness, the rapid and profound emaciation, and the great prostration; but even with the whole history of the case and the *post-mortem* findings in view, it seems doubtful to me whether a positive diagnosis could have been reached, unless an examination of the stools had cleared it up.

Cancer of the pancreas is rarely unattended with jaundice, at any rate during some part of its course.

With regard to the cause of the pancreatic disease, the atrophic condition of the mucous membrane of some parts of the intestine, the distension of the cæcum and thinness of its walls, the very striking alterations in the pancreatic duct, and the evidences of irritation of the abdominal glands, may be taken together as evidences of an infection of the pancreas through its duct from the intestinal tract, most probably of bacterial origin, though the *post-mortem* failed to show the exact nature of the irritant, whether bacterial or bacterio-toxic.

Julia H., aged 44, single, a nurse. Family history good. Seven years ago she was operated upon for strangulated hernia, and since then she has worn a double truss. No other illness and no dyspepsia or other gastric trouble until the last two or three years. She has never had jaundice; never very strong. For years she had been subject to "piles," as evidenced by attacks of bleeding from the rectum, each of which lasted for a few days. Two severe attacks of this kind occurred in May and June, and since then she had suffered from anæmia. For two or three years past she had complained of pains in the epigastrium, not very severe, worse after food, and of headache.

Her health was much as usual until the middle of July, 1911, when she had a more severe attack of bleeding from the rectum than she had ever had before. On examination by Dr. Pinniger, under whose care she was, nothing but a hemorrhoidal condition of the rectal mucous membrane was found to account for the bleeding. Under appropriate treatment, with rest in bed, the hemorrhage gradually ceased, and did not recur. She was very weak, and on an attempt being made to feed her up she had a sudden very severe attack of epigastric pain, which was not relieved by the vomiting which accompanied it. From this time onwards she suffered from great weakness and prostration, from attacks of faintness, and at frequent intervals from vomiting, with more or less severe pain referred to the region of the epigastrium.

She was admitted to the Hospital towards the end of August, 1911, and I first saw her on my return on September 3rd. During this time she was in bed, extremely weak, anæmic, and with frequent attacks of severe pain in the middle of the epigastrium, at times almost unbearable, from persistent nausea and anorexia, and from attacks of vomiting, which came on suddenly and bore no relation to food. The vomit consisted of the contents of the stomach at the time, and contained no blood.

On September 4th her condition was as follows. She was anæmic with a pale yellow or lemon-coloured tint of skin, somewhat emaciated, extremely weak, and incapable of the least exertion. She could not stand or sit up. Anorexia. Tongue moist and furred. Bowels constipated; the stools consisted of small, hard, dark-coloured scybala; defecation was painful on account of piles. Teeth had been removed some time ago, and she had artificial ones. Pulse 78, regular, weak, small, empty between beats. Catamenia normal.

The thoracic organs were normal, except that the heart's impulse and sounds were weak.

Abdomen not distended, soft, resonant all over, moved normally with respiration. There was no enlargement of the liver or spleen, and the kidneys were not felt. Gall-bladder not felt. The epigastric region was full, resistant, and tender; there was an especially tender spot and perhaps a slight swelling deep in mid-epigastrium, just to right of middle line.

Urine: sp. gr. 1010; no albumin, sugar, or bile; no deposit.

Blood: red cells 4,000,000, hæmoglobin 60 per cent., whites 5,000.

Rectal examination was painful owing to the presence of internal piles; there were no external ones, and no growth was felt. There was some prolapse of rectum.

During the first half of September the pains in the epigastrium continued at frequent intervals. The nausea was relieved for some days by drop doses of tinct. iodi, but then returned. She vomited about every second day. The vomit was acid and never contained any blood. Tests for "occult" blood in vomit and fæces were negative. She took milk diet, and an attempt to give her more solid food only resulted in increase of pain and in vomiting.

The urine varied in specific gravity from 1010–1020, was normal in quantity, occasionally contained a trace of albumin; it never contained bile, and there was no excess of urobilin (spectroscope) nor of aromatic bodies (Jaffé's test). There were no crystals or other deposit. The skin was not jaundiced, the conjunctivæ were white. The stools remained scybalous and dark in colour, and showed to naked eye no excess of fat.

The abdomen remained soft, but there was always excessive tenderness in the epigastrium, a feeling of resistance, and of an indefinite, deep-seated, small swelling midway between ensiform cartilage and umbilicus, just to the right of the middle line.

For about a week at the end of September she improved a little, was less weak, and the pain and vomiting ceased; but on October 4th the pains in the epigastrium returned with increased severity, and attacks of vomiting were frequent and not controlled by the various remedies tried. The bowels were kept

open by enemata and mild aperients ; they were always constipated, and scybala could occasionally be felt in the colon. She lost 5 lb. in weight from September 4th to 25th.

Blood examination on September 25th gave reds 4,500,000, hæmoglobin 60 per cent., whites 6,800.

Differential count—Polymorphs, 80 per cent.
Small lymphocytes, 8 per cent.
Large ,, 8 per cent.
Transitionals, 4 per cent.
Eosinophils, 0 per cent.

From October 10th onwards, without any change in the symptoms or the appearance of any fresh ones, her condition steadily deteriorated. She was utterly prostrate, dull and apathetic. She lost her voice and emaciated rapidly. The pain and vomiting continued. The heart sounds were extremely feeble. The pulse remained at 110 to 120, was very feeble, and at times could hardly be felt.

The temperature throughout the illness was subnormal, varying from 97° to 98.4°.

On October 19th, after an attack of vomiting, she became cold and collapsed, and died in the early morning.

Throughout the case there were no hemorrhages.

At the *post-mortem*, which was made by Mr. G. Scott Williamson, there were a few slight adhesions over the lungs, which were congested at their base.

Heart.—There was an excess of epicardial fat. The heart muscle was paler than normal and striated with white lines ; the papillary muscles especially were pale. The aortic valves were thickened, and the commencement of the aorta showed patches of atheroma ; mitral segments also thickened with a nodule of atheroma on the aortic one.

Abdomen.—There was no ascites.

Liver.—Somewhat decreased in size. There were no marked changes ; it was rather pale, and on the diaphragmatic surface of the right lobe there were a few pale yellow or mottled patches, the size of a sixpence, with well-defined edges, but not raised above the surface. The section presented a homogeneous appearance. Gall-bladder and ducts, both cystic and common, were normal. No gall-stones. In the mesentery and small omentum were several small areas of fat necrosis.

Pancreas.—Weight 9½ oz. Distinctly enlarged, very hard and nodular throughout its whole length. The head felt especially hard. On section it was lobulated with pale areas differentiated from the general structure, and though very hard on cutting, there was no microscopic evidence of fibrosis.

Spleen.—Showed enlarged and thickened trabeculæ ; the pulp appeared homogeneous, and the Malpighian bodies were not differentiated.

Kidneys.—Enlarged, swollen; capsules stripped easily, leaving a pale, smooth surface mottled over with dark areas. The organs showed advanced fatty degeneration, the cortex being pale yellow and soft, and showed no differentiation of its component parts, the vasa recta being only visible at the edge and the medulla hyperæmic. Suprarenals appeared normal.

Stomach.—Normal; no sign of malignant disease; pylorus patent.

Small intestine.—Mucous membrane somewhat atrophied and smoother than usual. The lymphoid follicles were not prominent.

Large intestine.—The cæcum was much dilated and its walls thin. The appendix was normal. The sigmoid flexure and upper part of rectum showed two or three small diverticuli. There were numerous enlarged abdominal glands.

Microscopic examination.—In sections stained with pyronin and methyl green the pancreas showed an advanced interstitial cirrhosis of a chronic kind, wide strands of fibrous tissue separating the acini. The connective tissue was not of very old standing, and showed no great tendency to contract; in a few places there were small aggregations of small round cells amongst the fibroid tissues. The cirrhosis was of the interlobular variety, and the newly-formed tissue did not penetrate within the lobules, the mode of spread being by cutting off outlying cells at the periphery of the lobules, which cells then atrophied. The pancreatic cells were normal as regards granules, nuclei, etc., and the intercalary ducts were normal and patent. The islands of Langerhans were well shown by this stain, and were entirely unaffected. In two or three places islets could be seen lying amongst the interlobular connective tissue.

Stained by Scharlach R, the cells of the acini were almost entirely free from fat, but a few contained some fine particles. Within the cells and the lumen of the intercalary ducts, both minute and larger, there was a fairly abundant deposit of mostly small droplets of fat. The chief amount of fat was, however, in the lymph-spaces of the interlobular connective tissue, especially near the periphery of the lobules, and more especially in those parts in and about the aggregations of small round cells, where in many cases there was a large deposit of fat droplets. The fat stained a brownish-red colour. The pancreatic duct showed very striking changes. In longitudinal sections it exhibited a series of constrictions with intermediate swellings, whose cavities were often filled with desquamated cells. At the constrictions the wall of the duct showed dense fibrous tissue, closely packed with round cells, mast-cells and plasma-cells. No micro-organisms were found in the lumen of the duct. The vessels of the pancreas were healthy.

The liver showed very extensive deposit of fat within the liver cells, chiefly in the peripheral, but also in the middle zone of the lobules. In the peripheral zone the fat was in the form of large droplets of the type formerly called "fatty infiltration," but in the middle zone it was in very small particles. There was a large but varying deposit of iron-free pigment granules in the cells at the centre of the lobules around the central vein. The hepatic arteries and ducts were normal; there was no increase of connective tissue in the liver, and it was not congested.

The spleen showed no change of importance, the pulp-vessels were very full of blood, and the trabeculæ large and prominent in sections.

In the kidney the medulla showed extreme congestion of the vessels. In the cortex the vessels were not congested, and the glomeruli were normal; the convoluted tubules in parts showed epithelium which was swollen and granular, probably partly due to cloudy swelling and partly to early fatty degeneration. In other areas the normal epithelium of the tubules had disappeared, and they were lined with a single row of flattened cells.

The enlarged abdominal glands, which were numerous, were in a state of extreme hyperplasia, with an unusual number of polymorphonuclear leucocytes and of endothelial cells with cell inclusions.

I must not conclude without expressing my best thanks to the pathologist to the Hospital, Mr. G. Scott Williamson, for his very excellent sections.

OPERATIONS ON THE UTERUS AND APPENDAGES DURING PREGNANCY.

BY

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IT is commonly believed that the uterus is rendered by pregnancy so susceptible to either direct or indirect stimuli, that any kind of physical or mental shock will set up contractions and so lead to the evacuation of its contents. That this is not so in

all cases, and that not only may surgical operations be safely undertaken without terminating pregnancy, but that operations on the uterus itself do not necessarily lead to the termination of pregnancy, is shown by the short series of cases which follows.

Pathological conditions may arise at any time during pregnancy in connection with the appendages, or the uterus itself, calling for immediate surgical intervention. Ovarian tumours form one class of these conditions, and may call for surgical intervention either in the form of immediate operation on account of accidents to them as the result of pregnancy, or of a more deliberate nature in order to avoid dangers liable to occur either later in pregnancy or during the puerperium.

Ovarian tumours may, for example, be so situated as to obstruct labour; torsion of the pedicle in those not so situated may occur, and is as a matter of fact a common occurrence; pain and pressure symptoms due to their rapid enlargement; inflammation and suppuration; or rupture of the cyst may occur in the course of pregnancy.

Labour may cause mechanical injury, torsion of the pedicle, or thrombosis of the vessels from stretching on the pedicle, and produce serious symptoms during the puerperium due to the same causes.

It has been shown (McKerron) that in all cases in which ovarian tumours accompany pregnancy the maternal mortality is high and that artificial methods of delivery, if they obstruct labour, *per vias naturales*, even if successful, are highly dangerous. The safest method in such cases is to remove the tumour, if it can be reached without too great difficulty.

In some cases this may be extremely difficult, and I have myself been compelled to perform Cæsarean section in one case before the tumour could be removed, owing to dense adhesions. Such a complication as twisted pedicle is liable to occur as the result of the displacement of the tumour by the enlarging uterus during pregnancy, or by its consequent sudden diminution during labour.

It is obvious that the earlier in pregnancy the presence of

the tumour is discovered the easier will be the operation for its removal, since the presence of an enlarged uterus necessarily renders the operation more complicated.

In any case the recognition of the presence of an ovarian tumour in a pregnant woman should lead to its removal either immediately if acute symptoms are present, or with as little delay as is reasonably possible if the symptoms are not urgent, especially if the tumour be solid.

Myomata of the pregnant uterus, although they do not call so urgently for surgical intervention, should always be looked on with suspicion, since they also may produce serious complications. They invariably enlarge with a rapidity quite apart from the apparent enlargement due to increasing size of the uterus, and this enlargement may be so marked as to call for their removal on account of upward pressure on the thorax and interference with respiration. They may undergo degeneration, either "red" or myxomatous, or become œdematous.

If pedunculated, the pedicle may become twisted and the blood supply cut off, or if not pedunculated, but growing from one side of the fundus, they may cause acute axial torsion of the uterus; if situated in the lower segment of the uterus, they may obstruct labour, and necessitate Cæsarean section. Even if they do not give rise to any marked complication during pregnancy, they are liable to suffer considerable damage during the puerperal period, and during labour may lead to rupture of the uterus.

At the same time, the fact that they are of common occurrence must be borne in mind, and the additional fact that many women pass safely through pregnancy and labour, even when quite obvious tumours are present. But complications may occur and become serious, or even fatal with great rapidity, and all pregnant women who are known to have palpable fibroids should be put under constant and close observation.

In all cases of the co-existence of tumours of the appendages or the uterus and pregnancy, it should be remembered also that acute symptoms if they arise are very apt to lead to premature

expulsion of the contents of the uterus; so that this event occurring as the result of operation, is in the majority of instances only an anticipation of an event which is almost a certainty.

As regards the technique of the operation, the chief point to avoid is the handling and disturbance of the uterus; in the case of ovarian tumours this can be reduced to a ninimum, but with fibroids it is unavoidable. The closure of the wound should be such as will give a firm scar which will not yield under the pressure of the enlarging uterus, and to secure this the wound should always be sewn up in layers, and the sheath of the rectus well overlapped in the whole length of the incision.

Cases of Ovariotomy during Pregnancy.

Case 1.—A primigravida, aged 33. Pregnancy advanced to the sixth month. A cystic swelling, movable, and not particularly tender, felt rising above the umbilicus. A sulcus could be felt between the cyst and the pregnant uterus.

The abdomen was opened, and an ovarian cyst of the left side delivered after tapping. The wound was sewn up in layers. The patient made a good recovery and went to term, but the child was stillborn.

Case 2.—A multipara, aged 33. Considerable difficulty was found in establishing the diagnosis of ovarian tumour, since the whole abdomen was distended by a fluctuating swelling, apparently uniform, reaching to the ensiform, one side of the swelling being contractile and the other not so. A provisional diagnosis of ovarian tumour, with a pregnancy of about six months, was made, and confirmed by tapping the non-contractile portion of the swelling with a hypodermic needle, and drawing off a small quantity of fluid, the chemical and microscopical constituents of which proved it to be ovarian in origin. A large, thin-walled cyst was removed by laparotomy, but the patient miscarried four days after the operation. Recovery was otherwise uneventful.

Cases of Myomectomy during Pregnancy.

Case 1. — Primigravida, aged 40. Suffering from an abdominal tumour, complicating pregnancy. 14/6/05.

The patient stated she had missed three periods, but had noticed an enlargement of the abdomen, and been conscious of the presence of a tumour for between six and seven months.

She sought advice on account of pain and dyspnœa, caused by the presence of the tumour.

On abdominal examination the whole abdomen was found to be occupied by a hard, rounded, nodulated swelling, extending into both flanks, and distending the upper part of the abdomen. There was much difficulty in respiration due to mechanical interference with the diaphragm, due to the presence of the tumour, and a considerable amount of pain from pressure. On vaginal examination the cervix was found to be soft, and the uterus could be defined as a soft rounded swelling in the pelvis. As the difficulty in respiration and the pain were rapidly increasing, laparotomy was decided upon.

On opening the abdomen a large fibroid presented, attached by a thick pedicle to the fundus of the uterus. The pedicle was ligatured and cut through by a V-shaped incision, and the fibroid removed. The peritoneum was was then sewn together over the stump and the ligatures, and the abdomen closed.

The patient made a good recovery, and was discharged practically well three weeks later.

Case 2.—A primigravida, aged 34, was sent to me on account of an abdominal tumour which had suddenly become extremely painful. She had missed four periods, and sought advice on account of the increasing pain and size of the tumour.

On examination a tumour, apparently double, was felt rising to just above the level of the umbilicus. The left lobe was soft and elastic, while the right was hard and apparently solid.

Both tumours were approximately of the same shape and size, the size of the tumour corresponding to that of a four and a half months' pregnant uterus.

On opening the abdomen a tumour was found growing from the pregnant uterus, the shape of the uterus and tumour combined being that of a heart on a playing card. The uterus was rotated on its long axis, so that the right cornu which formed the left lobe of the double tumour lay in the left iliac fossa, and contained a fibroid larger than a coco-nut. The tumour in the right iliac fossa was found to be the pregnant uterus, from the right cornu of which the fibroid was growing.

The capsule of the tumour was incised, and the fibroid enucleated. The cavity left was closed with three tiers of continuous catgut sutures, and the peritoneum united over the sutured incision in the capsule.

The patient made a good recovery, and left the hospital a month after operation. Six weeks later, however, at the end of the six month, she miscarried. She made a good recovery,

and has since been delivered of a full-time child without difficulty.

Case 3.—Primigravida, aged 29. Sought medical advice on account of pain in the pelvis, frequency and difficulty in micturition, and other pressure symptoms.

On examination the fundus of the pregnant uterus could be felt just above the brim of the pelvis. On vaginal examination the size of the uterus was found to be that of a three months' pregnancy, while growing from its posterior aspect, at about the level of the junction of the supra-vaginal portion with the body of the uterus, was felt a rounded tumour which depressed the posterior vaginal fornix, and occupied practically the whole of the space in the posterior half of the pelvis.

Owing to the rapid increase in the pain and pressure symptoms while she was under observation, immediate operation was decided on after the patient had been offered the alternative of going to term, and being delivered, if necessary, by Cæsarean section. The posterior vaginal vault was incised, and the pouch of Douglas opened. The capsule of the tumour was seized with vulsellum forceps, incised, and the fibroid gradually enucleated from its connection with the uterus, and brought down into the vagina. The raw surface left was closed by a double tier of continuous catgut sutures, and the peritoneum over-sewn. The patient made a good recovery, and I delivered her at term, after an absolutely normal labour, of a healthy female child.

She has since been delivered of a second child after a normal pregnancy and labour.

Case 4.—Primigravida, aged 28. This patient was between four and five months pregnant. The fœtal heart could be heard, and on the anterior surface of the fundus uteri there was felt a projecting rounded mass, obviously a fibroid, which had been increasing in size with great rapidity during the previous three weeks, and was giving rise to a considerable amount of pain.

The abdomen was opened, the fibroid enucleated, and the raw surface left sewn up, and the peritoneum over-sewn as in the previous cases. The patient made a good recovery, and was confined early in January, 1912.

In these cases, in Case 1 only was the tumour pedunculated, and in Cases 2, 3, and 4 the tumour was sub-peritoneal but sessile.

In each case symptoms were present calling for immediate relief: in Case 1 mechanical upward pressure, in Cases 3 and 4 increasing pain, and in Case 2 pain and pelvic pressure symptoms.

SOME CASES ILLUSTRATING THE DIFFICULTY AND IMPORTANCE OF EARLY DIAGNOSIS IN ACUTE INTESTINAL OBSTRUCTION.

BY

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IN forming a complete clinical picture of a typical case of intestinal obstruction, it is necessary to assemble all the signs and symptoms of this condition as forming parts of a whole; but it is of the utmost importance to remember that in the majority of cases diagnosis must be made and action must be taken, long before the picture is complete. We must be prepared to act upon a reasonable probability, and not wait for convincing demonstration in many surgical conditions, notably in acute abdominal disease and in the case of malignant growths. The following cases are all those of acute obstruction of the bowels which came under the writer's care within fifteen months, exclusive of those of strangulated hernias; and they illustrate in a striking manner two important points, viz. first, on what slender ground a diagnosis must often be founded, or rather how the exact diagnosis must often be deferred until after opening the abdomen, and second, what extreme changes occur in the intestine in a very short time.

Case 1.—Enteric intussusception (Fig. 1). S.H., aged 24, working man. Admitted to the Cossham Hospital June, 1910, for abdominal pain.

History.—No previous illness. Twenty hours before operation he felt a sudden pain in the abdomen just as he was rising from bed; this was followed by slight vomiting. The pain continued without much change, but the vomiting did not persist.

Condition.—Uniform distension of the abdomen, with some diffuse tenderness. Pulse 110, temperature normal. Bowels not open since the pain began.

Operation was decided upon at once because of the distension associated with persistent pain and constipation. Median incision, quantity of blood-stained exudate. A large coil of black gut, each limb being about one foot long and two inches in diameter, was easily brought to the surface. It consisted of an intussusception of the upper part of the jejunum, and the highest part of the superior mesenteric vessels was dragged into its neck. It was necessary to reduce the invagination in order to clear the neck from these important vessels. This was a matter of some difficulty, and in doing it the ensheathing layer was torn in several places. A piece of gut measuring

FIG. 1.

four feet nine inches in length was resected, this being about two inches more than the gangrenous portion. The cut ends of the gut were closed by purse-string sutures, and a lateral anastomosis formed.

The patient made a rapid and uneventful recovery. A peculiar fact was discovered in subsequent examination of the resected gut, viz. that a polypus about the size of a small walnut was growing from the mucous membrane in the neck of the entering layer. This was proved to be a simple adenoma. The existence of a polypus at the apex of an intussusception is, of course, well known to be a common cause of the condition :

but it is almost unique to find such a growth at the neck, and its relation to the invagination is difficult to surmise.

Case 2.—Strangulation under a band (Fig. 2). John S., aged 55, labourer. Admitted to the General Hospital June, 1910, for abdominal pain.

History.—No previous illness. Sudden pain in the abdomen twenty-eight hours before the operation. He was in the Hospital for twelve hours before the gravity of his condition was realised. During this time he had a little vomiting, but the bowels were opened after an enema. The temperature was

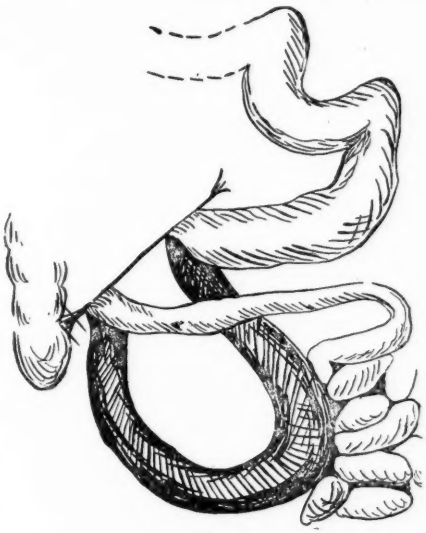

FIG. 2.

normal, but the pulse rose to 120, and the abdomen became slightly distended.

Operation was decided upon because of the steadily rising pulse rate and the abdominal pain and distension. Median incision. A quantity of foul-smelling, blood-stained fluid escaped, and a large distended coil of black gut was found strangulated under a long thin band, stretching from the right iliac fossa up to the right side of the mesentery. This band was as tight and as thin as a fiddle-string. The vessels in the imprisoned piece of intestine, which was a high part of the jejunum, were thrombosed, and the foul smell of the exudate

proved that rapid transudation was taking place through its devitalised wall. The gangrenous gut, measuring a little over two feet in length, was resected by the cautery. A lateral anastomosis was done after closing the open ends of the bowel. The wound was drained. The patient made a rapid recovery, and has since been quite well.

Case 3.—Tuberculous peritonitis (Fig. 3). Mervyn T. aged 13, admitted to the General Hospital August, 1911, for severe abdominal pain.

History.—He had been healthy until one year previously, since which time he had had several severe attacks of

FIG. 3.

abdominal pain. On two occasions he had been admitted to the Hospital on this account, once under a physician and once under a surgeon, but both times he had been discharged because nothing definite could be detected which required active treatment. On the present occasion the pain has been unusually severe, but he has taken his food well and the bowels have acted regularly.

Condition (August 23rd, 1911).—A rather thin boy, in whom no objective evidence of disease could be discovered. The abdomen moves well, it is not tender, but rather full. The pain which occurs in paroxysms is very severe, and at night he keeps the other patients awake by his screams.

Operation was in this case determined on simply on account of the severe pain. Median para-umbilical incision. Some clear free fluid. Extensive tuberculous peritonitis, with many caseous glands in the mesentery. A tight band about half an inch wide, connected at one end to the right side of the mesentery and at the other to the lumbar parietes on the left side, constricted the jejunum about twelve inches from the duodenum. This was divided. The gut beneath the line of constriction was so thin and ecchymosed that it had to be sewn over. The boy made a good recovery.

In this case the absence of vomiting and constipation is especially noteworthy.

Case 4.—Strangulation by a Meckel's diverticulum. Lily W., aged 11. Admitted to the Cossham Hospital April, 1911, because of abdominal pain and vomiting.

History.—Had had chorea for some months. On April 26th she had sudden abdominal pain, but was not ill enough for the doctor to be sent for. Bowels acted with a normal motion. April 27th she was no better, the pain being more constant, and localised on the right side. Dr. Skelton saw her, and thought she had appendicitis. Admitted April 28th.

Condition.—Appeared to be very ill. Pulse 20, respiration 40, temperature 99°. Abdomen distended and tender, more so over the right iliac fossa, which region was also somewhat dull to percussion. Bowels acted slightly after a turpentine enema. Diagnosis of acute appendicitis.

Operation.—Appendix incision. Free blood-stained fluid. Some coils of distended black gut appeared, and it was necessary to make a median sub-umbilical incision. The lower end of the ileum was tightly strangulated by a cord, the thickness of a sash-cord, wound round the base of the affected loop. This being quite gangrenous was resected, forty inches in all being removed. The gut was re-united by an end-to-end union. The appendix was brought out through the wound, cut short, and used for continuous saline infusion. Her condition improved for about six hours after the operation. She then vomited a large quantity of blood-stained fluid, and died suddenly. There was no autopsy.

If the likelihood of acute intestinal obstruction had been suspected in this case, an early operation would have been performed, and the life might have been saved.

Case 5.—Strangulation by appendix and Meckel's diverticulum (Fig. 4). Raymond B., aged 6. Admitted to General Hospital September, 1911.

History.—No previous illness. On September 9th he woke up at 4 a.m. with sudden abdominal pain, which was followed

by vomiting. This continued all day. The bowels were not open. On September 10th the vomiting had ceased, but the pain continued.

Condition.—Looked ill. Temperature 100°, pulse 120. Abdomen a little distended, some signs of free fluid, an indistinct mass felt in the right iliac fossa. Diagnosis was made of acute appendicitis, and immediate operation performed.

Operation (September 10th, 1911).—Appendix incision. Gangrenous gut presented. Mid-line incision. A short loop of ileum was tightly surrounded at its base by a cord consisting of an appendix which was sloughing, and a Meckel's diverticulum adherent to one another. The gangrenous gut (about six inches),

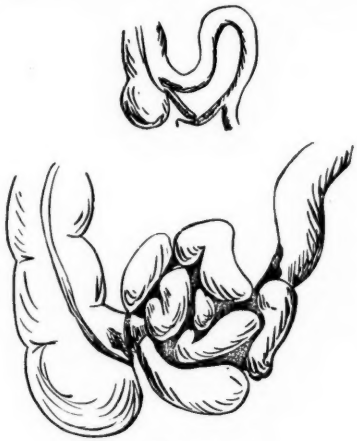

FIG. 4.

The upper diagram in this figure shows the manner in which the appendix and the diverticulum first become adherent to one another so as to form a band which subsequently ensnares a loop of intestine.

together with the appendix and the diverticulum, was resected, and an end-to-end junction made. A venous infusion of saline solution with pituitary extract was made at the end of the operation. Later in the evening a continuous subcutaneous saline infusion was carried out. He survived only about eighteen hours, dying in the afternoon of September 11th.

Case 6 (Fig. 5).—Strangulation by the pedicle of a fibroid. Martha C., aged 71. Admitted to the General Hospital on September 10th, 1911, for abdominal pain.

History.—She had been told by Dr. Aust Lawrence twenty years ago that she had a "tumour of the womb," otherwise

she has always had good health. Early in the morning of September 10th she was taken with severe abdominal pain, with a little sickness. The bowels had since been slightly opened.

Condition (eighteen hours after onset).—She had a drawn and anxious expression. Pulse 120. Temperature 97.4°. The abdomen was soft and not distended. There was slight general tenderness. An enlarged nodular uterus filled up the pelvis. Immediate operation.

Operation.—Sub-umbilical incision. A large quantity of almost pure blood escaped from the incision. A loop of ileum

FIG. 5.

was strangulated in the pelvis by the thin pedicle of a sub-peritoneal fibroid, turned back into Douglas's pouch. This fibroid pedicle was so slender that it broke on manipulation, but it had served to cause gangrene in the coil of incarcerated gut. This, amounting to about three feet, was resected, and a side-to-side anastomosis performed. The patient died in spite of a venous saline infusion performed on the table.

My special object in presenting this short series of consecutive cases is to illustrate and emphasise the difficulty and importance of making an early diagnosis in conditions of intestinal obstruction.

It will have been observed that the history in all of these was comparatively short (between eighteen hours and three days). Now it may be true that a case of intestinal obstruction will live for a whole week in the absence of any operative relief, but in the majority of cases the fate of the affected gut is determined, and immediate operation demanded within twenty-four to forty-eight hours.

It is utterly unjustifiable to wait in any case of suspected intestinal obstruction beyond this time. A longer period may be necessary for the development of the full clinical picture, with the sunken features, fæcal vomiting and abdominal distension, but if one is to wait for this before acting, one might as well wait a little longer for the *post-mortem* examination.

The vomiting in the early stages is only slight and transient, as is seen in all the above cases. It is caused by the sudden peritoneal stimulation in the same way as the early vomiting of appendicitis. The fæculent vomiting, which perhaps is the only unmistakable sign of obstruction, is a comparatively late phenomenon, caused by the reflux of fluid from the contracting bowel. It is always desirable to operate before the advent of this evidence of the advanced progress of the malady.

It seems to me that persistent abdominal pain of a severe type, unrelieved by rest and starvation, must remain the most notable sign, and often the only one, upon which a diagnosis is to be founded. When I say a diagnosis, it should be noted that in most cases it is only possible to go so far as to say that some grave catastrophe has occurred which demands further investigation. The case may turn out to be one of appendicitis, intestinal obstruction or pancreatitis, but it is better to "look and find out" than to "wait and see."

With certain precautions, the general rule that persistent abdominal pain, unrelieved by rest and starvation, requires the abdomen to be opened, will often be the means of saving life, though very rarely it may lead to an unnecessary operation. By persistent abdominal pain, in relation to the acute conditions we are considering, is meant pain with an abrupt onset in a patient who has been in good health, which persists for more than

twenty-four hours, although the patient has been kept in bed on the lightest possible diet.

Such conditions as lead colic, tabes dorsalis, tuberculous spine and aneurysm must be borne in mind, and each can usually be excluded by the absence of characteristic signs.

The only condition likely to be mistaken for intestinal obstruction, in which operation will lead to disaster, is the acid intoxication of children. In this there is persistent vomiting, but there is a marked absence of pain, a tendency to drowsiness, and a sweet smell in the breath which should serve as warnings, which will be confirmed if the acetone bodies are found in the urine.

SOME OBSERVATIONS ON TUBERCULOSIS OF THE NOSE AND PHARYNX.[1]

BY

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THE greater frequency of infection of the larynx and lungs by the tubercle bacillus has overshadowed its not very infrequent occurrence in the upper portion of the respiratory tract, the nose and pharynx. That tuberculosis of the nasal passages is not more common is no doubt due to the filter action of the vibrissæ, the ciliated epithelium, and the secretion of mucus which is distinctly bactericidal.[2] When it does occur it most commonly takes the form of lupus, the disease first showing itself on the front of the septum just inside the vestibule, probably owing to direct infection by the finger nail.

The disease follows a similar course to lupus in other parts of the body, slowly spreading and ulcerating. It is often very

[1] A paper read before the Bristol Dispensary Clinical Society.

[2] *Tr. Brit. Congr. Tuberculosis*, 1902, iii. 390.

slow in growth, but tends eventually to involve the skin of the face. It is certain that a considerable proportion of cases of facial lupus originate in the nasal passages (it has even been stated to be as many as 75 per cent. of cases), but it is only a considerable time after the nasal infection that the skin becomes involved. I have recently seen a case which well illustrates its chronic character.

The patient, an adult female, has suffered for twelve years from "nasal catarrh," with obstruction and discharge in the left side of the nose. Ten years ago she developed an acute dacryocystitis on the same side, which healed after an abscess had been opened. Now, ten years later, she has an extensive patch of lupus, involving the left side of her nasal septum and inferior turbinal, and also a few small nodules on the tip of her nose, and another patch in the scar over the lachrymal sac, infection evidently having spread up the nasal duct.

The importance of the early recognition of intra-nasal lupus is that it lends itself to free removal without leaving a visible scar, thus preventing later skin infection, and also infection of the lungs, which is not uncommon.

Cases of tuberculosis ulceration of the nasal septum also occur, differing from lupus in the more rapid and deep ulceration, with frequently the formation of masses of tuberculous granulation tissue. Ulceration of the posterior septum involving the bone is supposed to be seldom or never tuberculous, but I have recently seen two such cases. In both the condition was present in a young adult male, and in both it was apparently the only tuberculous lesion present. In each case there was a patch of ulceration over the vomer, with bare necrosed bone at its base, and with in one of them a perforation of the bony septum. The diagnosis was established by microscopical examination of portions removed. The presence of a cough, with some loss of flesh, and a positive reaction with Koch's old tuberculin, led in one of the cases to a diagnosis of phthisis with subsequent nine months' treatment in a tuberculosis dispensary and sanatorium, although at no time were there positive signs in the chest or bacilli in the sputum.

It is well recognised that tuberculosis of the pharynx occurs as a late event in phthisis as a superficial and usually very painful ulceration, involving any portion of the pharyngeal wall. In addition, however, a latent form of pharyngeal tuberculosis exists, but is not so well recognised. This condition involves the lymphoid tissue, and in a very great majority of cases that which forms the faucial tonsil. The tuberculous deposits occur deep in the tonsillar tissue round the bottom of the crypts, and remain quite latent, the tonsils as a rule undergoing shrinkage owing to fibrosis. The importance of this condition lies in the fact that a large proportion of cases of tuberculous glands in the neck are due to infection from a latent tonsillar focus. In favour of this view are the following facts :—

(1) The relative enormous frequency of involvement of the neck glands can only be explained by infection taking place through the nose, mouth, or pharynx.

(2) The gland first involved is almost invariably that one at the angle of the jaw into which the tonsillar lymphatics drain, and which is so constantly enlarged in acute tonsillar infections.

(3) Glandular infection from nasal suppurative conditions is very uncommon, and neither of the cases of tuberculosis of the nose which I have related had any enlargement of glands. The only other likely point of entry after the nose is either the lymphoid tissue of the pharynx or diseased gums and teeth. Although dental sepsis has frequently been regarded as the primary focus, it is negatived by the fact that the submental and submaxillary glands into which a large proportion of the lymphatics from the gums and teeth drain, are but seldom involved, and also that the tuberculosis of the glands in the neck does not bear any relation to the extent or existence of dental sepsis.[1]

(4) In case of slight or moderate enlargement of the glands, complete removal of the tonsils will not only check their growth, but in many cases cause their subsidence. I have observed

[1] Osborne, *Brit. M. J.*, 1911, i. 70.

twelve cases with moderate glandular enlargement varying from the size of a walnut to that of a hen's egg four to eight months after complete removal of the tonsils. In three cases the glands entirely disappeared, in seven cases the glands were just palpable, and in two they were about the same size as before; but in no case had any further growth taken place.

In another case, a boy aged nine years four years ago had a tonsil removed which was shown on section to be tuberculous. He then had considerable enlargement of the glands on the same side as the tuberculous tonsil, but the glands have now entirely subsided without further treatment.

(5) Tonsils removed from cases of tuberculosis of the neck-glands have been shown in a large proportion of cases to be tuberculous.

Thus Carmichael[1] in thirteen cases of marked enlargement of the glands found tuberculosis in the tonsil in five, although only one or two sections were cut from each tonsil; while Mathews[2] in eight cases found five of tonsillar tuberculosis, while in two more there was some other lesion in mouth or lip to account for the infection. Hurd and Wright found nine cases out of twelve examined. So that out of a total of thirty cases examined nineteen were shown to have a latent tonsillar tuberculosis.

It would seem, therefore, that in slight enlargement of the glands of the neck, in which no other primary focus can be found, and the "tonsillar" gland is the first involved, if the tonsils are completely removed the condition will not progress.

In cases of marked enlargement it would appear advisable to remove the tonsils at the same time as the glands, if an operation is necessary. It is likely that this proceeding may improve the results where operation is necessary. I find that at present out of fifty-two cases in which operation was done on the neck, nineteen have required two or more operations.

[1] *Proc. Roy. Soc. Med.*, 1910, iii. *Sect. Childr.*, p. 27.
[2] *Ann. Surg.*, 1910, lii., 753.

It would seem that removal of the primary focus should reduce this number.

The reason that the tonsil has not been recognised before as the infecting focus is that it is not only not enlarged, but actually smaller than the normal.

SOME GALL-BLADDER CASES PRESENTING FEATURES OF INTEREST.

BY

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DURING the last few years I have had some gall-bladder cases which have had peculiar features in diagnosis or treatment, and these may prove interesting.

Case 1.—A woman of 48 had a typical history of frequent attacks of colic, getting gradually worse, a little temperature occasionally, and sometimes slight jaundice, never deep or persistent. At the operation I found several stones in the common duct. The gall-bladder was buried in very dense adhesions, which took a long time to get through, and was very small and contracted with walls almost half an inch in thickness. It contained a small amount of brown inspissated mucus, but no stones. I removed it. In spite of the chronic condition which must have been going on for years, she had never been laid up by any of her attacks.

Case 2.—A woman, aged 51, had had mild attacks of pain for years. On operating I found the largest stone I have ever seen in the common duct. It was over 2 inches long, nearly 1 inch across, and weighed when dry 280 grains. In spite of its size, she had never had jaundice.

Case 3. — A woman of 56 had suffered for years with abdominal pain and indigestion, never an attack like colic. For three months before I saw her she had had jaundice, and was very thin, weak and ill. A lump could be felt in the gall-bladder region, and I thought she had cancer. She readily

consented to an exploratory operation. After burrowing through dense adhesions, I suddenly found a gall-stone in the wound about the size of a small marble ; later on I found the gall-bladder and opened it. It contained no stones. I was quite unable to find any way out of it into the common duct, and on account of adhesions, could not demonstrate the duct from below. She was not in a condition to stand a very prolonged operation. For six weeks afterwards she had no sign of any return of bile in the stools, and was still discharging some from the wound. The morning she left the home there was for the first time a trace of colour in the fæces, and then she rapidly got better. Six months afterwards her doctor told me she was perfectly well. This case makes one think one should almost always give a case of deep jaundice the benefit of an exploratory operation.

Case 4.—A man of 34 had for many months attacks in every way typical of gall-stones. I expected to find numerous small calculi in his gall-bladder. The whole biliary apparatus, however, was perfectly normal ; but I found on the under surface of the liver a swelling, and on opening it saw it was packed full of hydatid daughter cysts. It was peeled out without much difficulty and very little bleeding. Subsequently I discovered that he had been in Australia seven years previously.

Case 5.—A woman, aged 37, for seventeen years had had constant slight attacks of colic, and on one occasion only had she had jaundice. She had seen many doctors in England and Germany, and opinions seem to have been divided as to whether her attacks were gastric or biliary. She was averse to operation, and left Clifton. Two years later she went to see a physician in London for a pain in her hip, and he discovered that she had a swelling in the region of her gall-bladder, which had never been present when I saw her. She came back to see me, and there was then quite a large swelling, feeling like a gall-bladder, and which was quite painless ; in fact, she had not had any of her usual pain for some months, and had begun to think she had got over the trouble. I found on operating an enormous gall-bladder, very thick, and containing over half a pint of pus and also about a dozen stones the size of marbles ; the ducts were all free. I removed the bladder, having to dissect it out of the liver, where it had got buried. Unfortunately I did not have a culture made. This was over a year ago, and she has had a few attacks of pain since like her old pain, but not enough to lay her up.

Case 6.—A man of 40, who for some years had dull aching pain in the liver region, never definite colic or jaundice. The pain during the previous few months had become much worse, there was a slight persistent temperature, and resistance in

the region of the pain could be felt. At the operation I found the most difficult mass of adhesions I have ever met with in this region. I simply could not define the gall-bladder, and presently opened it quite unexpectedly. It was normal in size and full of pus and stones. I then cut it away in pieces; and when I got down to the neck it was better defined, and I could see that I cut across the cystic duct. In spite of the difficulty I had with the adhesions, I did not have to put a ligature on a single vessel, even when cutting off the neck of the bladder. The convalescence of this case was the most prolonged of any. He was laid up in bed for nearly six weeks, and then at home for a few more, before he was able to get back to his business.

Case 7, the last on my list, is perhaps the most interesting of all. She was a woman of 53, who had fair general health, except a little indigestion. Last September she had an attack supposed to be biliary colic, another similar one in November, and her third shortly before her admission to the Royal Infirmary on the 10th of January. Jaundice was then present, and had also been with her first attack. Tender resistance made it difficult to feel much in the upper abdomen, and her temperature was much raised. She was very ill and had a very feeble pulse. At the operation the gall-bladder was normal; the fat in the wound area showed numerous spots of necrosis, such as one usually sees in acute pancreatitis. Adhesions to the left of the gall-bladder were separated, and a large foul abscess was opened which extended behind the stomach and back to the pancreas, which could be felt lying bare, but not in any way feeling abnormal. There was no evidence of duodenal or gastric ulcer or of stone in the common duct. A drain was put in, and later the cavity washed out daily. No attempt at healing took place, and the wound got into the sloughy condition common in pancreatic injury or ulceration. The wound was dressed with normal horse serum in the hope that this would satisfy the digestive action of the pancreatic juice and so save her own tissues. It is doubtful if this had much effect. She gradually got weaker, and died about four weeks after the operation. Examination showed the stomach quite normal, and the whole pancreas inflamed, ragged and suppurating.

All the other patients did well.

To sum up the points of interest:—

1. An advanced condition of cholecystitis, with dense adhesions or even pus in the gall-bladder, may be present in patients who have never had to leave off their ordinary duties.

2. Histories typical of gall-stone colic may be present in patients when there is nothing amiss with their biliary apparatus, as in the pancreatic and hydatid cyst cases.

3. A very large calculus can be present in the common duct without there ever having been jaundice.

4. In acute pancreatic disease, if the patient lives some time, the digestive action of the discharge in retarding healing is very marked.

5. Six weeks may elapse after an operation before bile begins again to enter the intestine.

6. Gall-stones can simulate cancer in all its symptoms, except, of course, those due to metastasis.

THE END-RESULTS OF FORTY-ONE OPERATIONS FOR INTERNAL DERANGEMENTS OF THE KNEE-JOINT.

BY

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DURING the ten and a half years from January, 1901, to July, 1911, there have been treated by operation at the Bristol Royal Infirmary fifty-six cases of internal derangement of the knee-joint out of a total of 22,782 surgical in-patients. Of these it has been possible to obtain an after-history in forty-one instances.

The total number of cases may be divided into six classes, according to the record of the condition found at operation.

Class I. *A normal or slightly movable cartilage found, not torn or detached.*—Thirteen cases, with after-history of eight.

Class II. *Cartilage torn, displaced, or very loose.*—Twenty cases, with after-history of seventeen.

Class III. *A loose body found.*—Eleven cases, with after-history of seven.

Class IV. *Condition inadequately described in the notes* (probably most of these should be placed in Class I).—Six cases, with after-history of five.

Class V. *Synovial fringes.*—Five cases, with after-history of three.

Class VI. *Melon-seed bodies.*—One case.

The following questions of interest arise, and will receive a brief discussion: The nature of the conditions giving rise to internal derangement in this series; the general results of operation, and the particular results in each of the various classes; and the indications for operative interference shortly after the original injury.

It is very remarkable, though in accordance with the experience of surgeons elsewhere, that in at least thirteen cases very little deviation from the normal could be found. In some of these the cartilage was rather loose; in others it was frankly described as normal. As half the cases yielded an excellent result, we must presume that no other abnormal condition was overlooked in these at least, although in one or two cases it is possible that a loose body or synovial fringe was missed. Why knees with little or no recognisable abnormality should produce swelling and attacks of locking persisting over many months is not very evident.

In twenty cases there was an obvious tearing or loosening of one or other semilunar cartilage; in two it was the external and in eighteen the internal that was at fault. The abnormalities were very various.

In seven cases the internal cartilage was split.

In three cases the internal cartilage was not torn, but very loose.

There were one or two instances of each of the following: Anterior end torn free (2), posterior end torn free (2), external cartilage left attached only at ends (2), internal cartilage torn across middle (1), left attached only at ends (1) or only in

front (1), anterior part torn away from capsule except at the extreme end in front (1).

The loose bodies were usually composed of bone and cartilage (5 cases) or cartilage only (4 cases). In one instance the body was derived from the internal semilunar cartilage; in several cases it was noted that there was a depression on the femur from which a piece of bone and cartilage had separated. In several cases there was a loose fibrous attachment. In one knee the loose body was organising blood-clot. Once there were two bodies present, and such difficulty was experienced in getting hold of the second that it had to be left. No after-history is available. A remarkable case in which both knees were full of melon-seed bodies is not included here.

The relation to injury was very definite in nearly all cases. It is precisely stated that in nine patients the cause was a football accident, and in another the game was hockey. Probably there were others besides these.

The Results of Operation.—Of the whole series of forty cases, excluding one in which the clinical picture was quite unlike that characteristic of internal derangement—

In 25 the result is described as excellent.
" 7 " " " good.
" 4 " " " fair.
" 4 " " " bad.

No case died as a result of the operation.

There is a remarkable and significant difference between the results in the second and third classes. Where a damaged cartilage was found and removed the operation was extraordinarily successful, and there was not a single failure. On the other hand, when a loose body was removed, there were three unsatisfactory results, and only two quite recent cases could be classed as excellent.

Six patients mention that they are now able to play football again, several are miners, and one is a sailor. One miner is able to do his work without inconvenience after removal of a cartilage from *both* knees.

GENERAL TABLE OF END-RESULTS.

CLASS.	No. of operations.	No. of after-histories.	Excellent.	Good.	Fair.	Bad.
I. Cartilage normal or slightly loose ..	13	8	4	2	1	1
II. Cartilage torn or very loose	20	17	16	1	0	0
III. Loose bodies	11	7	2	2	2	1
IV. Notes inadequate ..	6	5	2	1	1	1
V. Synovial fringes ..	5	3	1	1	0	1
VI. Melon-seed bodies..	1	1	0	0	0	1
Total	56	41	25	7	4	5

Class I. *Cartilage normal or slightly loose.*—One of the cases in this group is a well-known professional cricketer, and was incapacitated by the frequency with which his knee "came out." He is now able to play both cricket and football without any trouble. Like several other patients, he mentions that although there is no pain or stiffness, the knee occasionally grates a little on movement.

One case suppurated, and though the result is pretty good, he gets occasional pain and stiffness. Another is able to use the knee well and gets no pain, but describes it as "tender." In another the result is less satisfactory, and for some unknown reason he gets pain when he puts his whole weight on it and has to be careful going downstairs.

One patient is quite unrelieved, and gets pain and a sensation of something in the way. He cannot work without a hinged knee-cap. It is probable that in this case something was overlooked.

Class II. *Torn or very loose cartilage.*—Here the results are very remarkable, and there can be few operations so successful. The only case out of seventeen that can be described as less than excellent says that "the result is in every way successful," but he gets a "little stiffness and a grating noise in the knee," and the leg is still weak. This is about fourteen months after the operation. Another says he gets a "stabbing pain" occasionally, but this does not hinder him from playing football and cricket.

One patient had been previously operated on elsewhere, and the internal semilunar stitched in place. Relapse took place after two and a half years, and at operation there was a longitudinal split in the middle of the cartilage. Unfortunately, he is lost sight of. His other knee had also been operated on elsewhere and the cartilage excised; this joint was quite sound.

Class III. *Loose bodies.*—It is interesting to notice that in several of these the diagnosis was made by a skiagram before operation. In two cases, both dating from the middle of 1911, the result is excellent. Another is able to work, but gets stiffness at changes of the weather. A fourth patient gives a similar account of himself, and gets "an occasional shock of pain," but is "very pleased with it generally."

Another relapsed after six months, and the knee is now continually "coming out," although there is no pain or swelling. He is in Canada, but intends to come home for another operation.

A patient who was operated on in 1905 did quite well for two years and then relapsed. At a second opening of the joint a fresh loose body, consisting of bone and cartilage, was removed, the semilunar cartilage was torn and was also excised, and the knee showed osteo-arthritic changes.

Another gets pain, swelling and locking, with grating; the outer side of the joint is now at fault.

It is very evident that these results are far inferior to those obtained by removing a torn cartilage. It is well known that if an intra-articular fracture takes place in a normal animal union is usually good. It is probable that loose bodies are caused by some osteo-arthritic changes, so that after operation a second fragment may be detached, or stiffness and swelling develops. If this were due merely to the friction of a mobile particle in the joints, the torn semilunar would also be followed by permanent changes.

Class IV. *Notes inadequate.*—The results in this class were satisfactory, except in two cases. In one of these it would appear that too much damage was done to the internal lateral ligament by the incision opening the joint. The result was good for seven or eight months, and then he was re-admitted

because "the knee gave way." The muscles were wasted and there was lateral mobility. The ligament was tightened up and the knee fixed in plaster.

Another patient complains that her knee still aches occasionally and has "come out" twice since the operation, which was in 1905. The last trouble was in July, 1910.

Class V. *Synovial fringes.*—In one case the cartilage was removed as well as the fringe, and the result is excellent. Another patient took off his dressings, suppurated, and has a swollen, stiff knee in consequence.

A girl of twenty has been operated on twice for a knee full of synovial fringes, with swelling, but no locking. It had persisted for several months, and had once been diagnosed as tuberculosis. A year after the second operation the knee is still doing well, but the opposite joint has now become stiff and swollen.

Class VI. *Melon-seed bodies.*—Here we put a remarkable case of a man of fifty-one with osteo-arthritis of many joints of about a year's duraion. Both knees were enormously swollen and painful, and felt doughy. Movement was fairly good. The joints were opened, and an immense quantity of melon-seed bodies evacuated. The synovial membrane was thick, smooth and pale, without any fringes. The cartilages were eroded and somewhat lipped. Examination of the contents showed an excess of fibrin in the fluid; a cell-count yielded 50 per cent. polymorphonuclears, 40 per cent. endothelial cells, and 10 per cent. lymphocytes. The fluid was sterile, and did not induce tuberculosis in a guinea-pig.

The patient is still very crippled, but can get about a little with a stick.

Early traumatic cases.—In five cases the operation was performed within nine weeks of the injury, and this raises the question how long a stiff or swollen knee following on an accident should be treated by non-operative measures, and what are the indications for opening the joint. In one case, three weeks old, the patient could not walk, and the internal semilunar cartilage was found split. The joint swelled up after the operation and required aspiration. Possibly it had not recovered

sufficiently from the original trauma. The final result is excellent.

In two cases, nine weeks and four weeks old respectively, loose bodies were discovered; one was palpable and the other was diagnosed by the skiagram.

In two other patients thickened synovial fringes were discovered and removed eight weeks and six weeks after the accident. In one case the knee had been painful and swollen ever since; there is no after-history. In the other there was definite locking, and the knee had to be reduced "with a jump" by the out-patient surgeon. This was the man who spoiled the result by taking off his dressings.

This is the only case which suppurated out of forty-seven knees operated on for internal derangement since the end of 1903, about which time the use of gloves became customary.

TABLE OF CASES.

CLASS I.—*A normal or slightly loose cartilage removed.*

Initials.	Sex.	Age.	Year.	History and Findings.	End-Results.
J. H.	M.	32	1902	Struck knee 5 months ago. Often slips out.	*Feb. 1912:* Excellent result. No symptoms. A sailor.
F. F.	M.	28	1903	Knee swollen. Adhesions found and removed, as well as cartilage.	Suppurated, opened. *Nov., 1911:* "On the whole the operation has proved successful." Occasional pain and stiffness.
N. B.	F.	17	1903	Knee "put out repeatedly."	(Not known.)
E. B.	M.	26	1904	Knee swollen since accident a year ago.	*Nov., 1911:* Practically cured. "Very occasionally it will give a jerk."
A. H.	F.	22	1904	3 years' attacks. Blood clot in synovial membrane.	(Not known.)
A. H.	M.	28	1905	1 year's attacks. Inflammatory nodule also excised.	*Nov., 1911:* "A perfect success." Plays football.
A. P.	M.	22	1907	1 year's attacks, frequent displacement. Professional cricketer.	*Nov., 1911:* "As right now as before I injured it." Cricket and football.
E. E.	M.	19	1907	Several years' attacks.	(Not known.)

CLASS I. (*continued*).

Initials.	Sex.	Age.	Year.	History and Findings.	End-Results.
M. S.	F.	21	1907	Swollen knee 6 weeks, no injury. Contains bloody fluid. Congested.	(Not known.)
J. K.	M.	24	1908	3 months' history; knee swollen and often gives out. Normal cartilage removed	*Dec., 1911:* No pain or stiffness; walks and cycles. Knee tender.
G. E.	M.	22	1910	9 months after wrench. Often "gives way." Normal cartilage removed.	*Dec., 1911:* Pain, weakness, sense of "something in the way." Cannot work without hinged knee-cap.
W. H.	M.	31	1910	Two football accidents. Swelling and attacks of locking for many months.	*Dec., 1911:* Some pain when he puts whole weight on it. Care in going downstairs.
W. H.	M.	22	1910	3 months' history; cannot walk since.	(No after history.)

CLASS II.—*Cartilage, torn, displaced, or very loose. Removed.*

Initials.	Sex.	Age.	Year.	History and Findings.	End-Results.
A. M.	M.	29	1901	Old injury recently renewed. Pain and stiffness. Cartilage displaced.	*Dec., 1911:* "My knee is in good condition." No pain or swelling. Can run as well as ever.
T. W.	M.	41	1902	7 years' clicking, locking and falling down. Gouty. Tag partly detached.	(No after-history.)
D. W.	M.	22	1904	Recurrent swelling 9 months. Cartilage torn across middle. Alar ligament of mucosa also removed.	*Nov., 1911:* "As well as ever it was." Can run, jump and kick
H. W.	M.	27	1905	Many attacks, 4 years' history. Front of cartilage broken loose.	*Dec., 1911:* "Is all right." Works as miner. Second knee operated on in 1910.
J. B.	M.	22	1906	Front part of cartilage lying loose across joint.	*Nov., 1911:* "My knee is quite strong." Footballer. No pain or stiffness. May ache when weather changes.
J. L.	M.	32	1906	Often laid up for 3 years. Posterior half of cartilage rolled up in front of condyle.	*Nov., 1911:* "A great success in every way." A little "sticking pain" if he walks far.

CLASS II. (*continued*).

Initials.	Sex.	Age.	Year.	History and Findings.	End-Results.
E. E.	M.	39	1906	History 18 months. Cartilage loose and thickened.	*Nov., 1911:* "I am doing very well . . . quite satisfied." No pain; swells after hard work.
W. B.	M.	52	1906	Locking attacks 12 years. Flexion limited. Cartilage ¾-inch mobile in front.	*Nov., 1911:* "Made me a new man and a young man." No symptoms. Heavy work.
H. T.	M.	22	1908	Numerous attacks. External cartilage broken loose except at ends.	*Nov., 1911:* "I can move it as freely as ever." Cricket and football. No symptoms.
W. B.	M.	25	1908	Frequent attacks for 3 years. Cartilage only attached back and front.	*Nov., 1911:* "My knee is all right." No pain or swelling.
E. L.	M.	35	1909	Knee stiff and painful since twist 5 months ago. Cartilage split; tag partly detached.	*Nov., 1911:* "As fit as ever I was . . . Not inconvenienced the least bit." Miner.
R. W.	M.	40	1910	History 6 months. Loose tag partly detached from cartilage. Felt before operation.	*Dec., 1911:* "In every way successful." Leg still weak and some grating, however.
J. H.	M.	39	1910	Weak and swollen since twist 2 months ago. Posterior end of cartilage displaced forwards.	*Dec., 1911:* "Knee is all right." No symptoms.
H. W.	M.	46	1910	Unable to walk since blow 3 weeks ago. Snap felt by patient. Layer of cartilage found peeled up in front.	Synovitis followed; aspirated. *Dec., 1911:* "Is all right," can run. Miner. Both knees operated on.
A. H.	M.	35	1910	Repeated attacks of locking and swelling, 4 months. Longitudinal split in cartilage.	(No after-history.)
G. J.	M.	32	1910	Locking and swelling 4 years. Front of cartilage detached except at tip.	*Dec., 1911:* "In every way satisfactory." Plays games. A stabbing pain occasionally.
W. M.	M.	46	1910	Twisting and clicking 10 years. Cartilage lying free across joint, only attached in front	*Dec., 1911:* No pain, swelling or stiffness.
G. P.	M.	23	1910	Sensation of loose body with pain and clicking 7 months. External cartilage torn loose in middle.	*Dec., 1911:* "As fit as ever."

CLASS II. (*continued*).

Initials.	Sex.	Age.	Year.	History and Findings.	End-Results.
D. K.	M.	36	1911	3 years. Cartilage stitched in place elsewhere. Recurred 2½ years later. Cartilage found split.	(No after-history.)
H. W.	M.	27	1911 Mar.	6 weeks, pain since twist. Cartilage split longitudinally.	*Dec., 1911 :* "As well as the other."

CLASS III.—*Loose bodies. Removed.*

Initials.	Sex.	Age.	Year.	History and Findings.	End-Results.
A. P.	M.	16	1901	Loose body felt projecting 4 weeks since injury. Bone and cartilage from femur.	*Jan., 1912 :* Relapsed 6 months after ; often locking. Coming from Canada for operation.
W. H.	M.	39	1902	History 9 years. Nodule of cartilage (½ × ¼ inch), from femur, fibrous attachment. A second could not be extracted ; was left.	(No after-history.)
J. P.	M.	21	1904	Attacks of locking ; loose body felt ; 10 weeks. Cartilage and bone, size of halfpenny.	*Nov., 1911 :* "Able to work as usual" ; stiffness at change of weather.
E. P.	M.	45	1905	Loose body many years. Removed.	Well for 2 years ; then pain and swelling. Opened. Torn cartilage, removed ; also large loose body ; osteo-arthritis of joint. (No further history.)
J. P.	M.	49	1905	Pain and inability to extend since fall 9 months ago ; swelling near patella. Bony lump with fibrous attachment.	*Nov., 1911 :* Occasional pain, swelling, locking and grating. Pain now on outer side.
M. R.	F.	15	1905	Lump felt since a blow. Organised blood-clot, size of halfpenny.	(No after-history.)
H. T.	M.	41	1907	Locking ; loose body obvious ; 4 months since a twist. Cartilage and bone.	(No after-history.)
F. O.	M.	20	1908	Locking and cracking, 18 months. Part of semilunar cartilage separated as a loose body.	(No after-history.)

CLASS III. (*continued*).

Initials.	Sex.	Age.	Year.	History and Findings.	End-Results.
D. B.	M.	32	1911 (May)	Locking, 6 months. Cartilaginous. Internal semilunar normal, but removed.	*Dec., 1911 :* "Am very pleased with it generally," but much aching and stiffness at weather changes.
A. H.	M.	22	1911 (June)	Lump felt; locking; 8 months. Cartilaginous, with fibrous attachment.	*Jan., 1912 :* Excellent result.
T. H.	M.	23	1911 (July)	Twisted knee 9 weeks ago; swollen and stiff. Skiagram shows loose body. Bone and cartilage ($1 \times \frac{3}{4}$ inch).	*Dec. 29, 1911 :* "No pain or swelling"; can run; no symptoms.

CLASS IV.—*Notes inadequate; operation performed.*

Initials.	Sex.	Age.	Year.	History and Findings.	End-Results.
J. H.	M.	24	1904	Swollen three times; football accident.	*Nov., 1911 :* "As strong as the other." Footballer.
G. E.	M.	19	1905	Loose cartilage, removed.	Returned a year later with wasting of muscles, lateral mobility and giving ways of knee. Internal lateral ligament tightened by operation.
E. T.	F.	17	1905	History 2 years. Cartilage removed.	*Nov., 1911 :* "Still aches occasionally." "Slipped out" twice since. Can run and kneel.
A. B.	M.	33	1907	Frequent locking, 1 year. Cartilage removed.	*Nov., 1911 :* "Got all-right." Occasional pain and stiffness, but satisfactory. Died insane.
J. G.	M.	27	1907	Eight years' history. Cartilage removed.	(No after-history.)
W. E.	M.	35	1907	Repeated locking for 18 months. Cartilage removed.	*Nov., 1911 :* "Has been a great success." No trouble except a slight soreness after heavy work.

CLASS V.—*Synovial fringes removed.*

Initials.	Sex.	Age.	Year.	History and Findings.	End-Results.
A. L.	F.	40	1902	Pain and swelling since fall 8 weeks ago. Loose thick fringe of alar ligament removed.	(No after-history.)
E. F.	M.	27	1903	Six years' pain and locking. Tag of synovial membrane catching in joint removed.	Suppurated furiously. Many subsequent operations to drain.
G. W.	M.	63	1910	Visible lump; locking, 6 years. Normal cartilage and hypertrophied alar ligament removed.	*Dec., 1911:* "Perfect cure."
S. M.	M.	19	1911 (March)	Knee "out" repeatedly for 6 weeks; reduced by surgeon. Fibro-fatty synovial nodule removed.	Patient removed dressings; suppurated. *Dec., 1911:* Painful, stiff, swollen.
M. W.	F.	20	1911 (Jan.)	Knee swollen 2 months; no locking; looked like tubercle. Full of villous synovitis; cleared out at two operations; second operation transpatellar, in March.	*Dec., 1911:* Quite well, but 3 weeks ago the other knee began to swell.

CLASS VI.—*Osteoarthritis.*

E. S., male, aged 51, was operated on in 1910. He suffered from osteoarthritis of many joints; the fingers were spindled. For about a year the knees had been very swollen and rather painful; movement was fairly free. They felt soft and doughy, and there was soft grating. At operation immense masses of soft white melon-seed bodies were evacuated. Synovia thick, smooth, white; no fringes. Cartilage eroded and somewhat lipped.

The fluid contained fibrin in excess. It was sterile, and inoculation of a guinea pig for tubercle was negative. A cell-count showed endothelials 40 per cent., polymorphonuclears 50 per cent., lymphocytes 10 per cent.

In January, 1912, there is no great improvement, there is still pain and stiffness, but he can get about a little with a stick.

Progress of the Medical Sciences.

MEDICINE.

Pericarditis.—At this time of day the statement that pericardial inflammation is always due to bacterial infection will not provoke opposition or even comment, and most persons will be willing to go further and subscribe to a belief in the infection being blood-borne as a rule. Chatard's[1] careful investigation of the Johns Hopkins Hospital records of *pneumococcal pericarditis* shows that even when lobar pneumonia and pericardial infection co-exist the anatomical position of the pulmonary lesion is in a majority of cases remote from the pericardium; so that it is most likely that the pneumococci reach the pericardial sac through the blood-stream in the same way that they invade joints and other tissues (probably including the lung itself).

The clinical importance of pericarditis is threefold. First, the appearance of definite evidence of pericardial implication in rheumatic carditis proves that the heart is severely attacked; second, the formation of adhesions may constitute a serious addition to the burden which the heart (injured as it always is in respect of the muscle and the valves) has to bear; third, in some forms of pericarditis there is danger of massive or purulent effusion. It is therefore important to arrive early at a knowledge of the state of the pericardium in any case of cardiac inflammation, to discover the presence of adhesions or effusion, and to treat these if possible and necessary.

One sign of acute pericarditis to which Wynter[2] has drawn attention is *limitation of diaphragmatic movement.* The clinical evidences of this are immobility and even retraction of the epigastrium, and fixation of the diaphragm as demonstrated by skiagraphy. Edwards[3] also records a case of pericarditis with abdominal tenderness and rigidity. My own attention was called to the frequency with which children with rheumatic carditis complain of epigastric pain by Dr. Reginald Miller, who suggested that this might be due to extension of the infective process from the pericardium to the sub-diaphragmatic peritoneum, and I have since noted several facts which support this view. In one case, that of a girl whose heart had been attacked by rheumatism which was quiescent at the time of examination, a very distinct rub was heard over

[1] Chatard, *Johns Hopkins Hosp. Rep.*, 1910, xv. 155.
[2] Wynter, *Clin. J.*, 1911, xxxviii. 97.
[3] Edwards, *J. Am. M. Ass.*, 1911, lvi. 1784.

the apex of the epigastrium synchronous with the breathing movements; and more recently Dr. Scott Williamson showed me flakes of fibrin on the anterior surface of the liver at an autopsy on a child who had died of acute rheumatic carditis, with widespread inflammation of the pericardium. Be this as it may, it is beyond all doubt important to recognise epigastric immobility as an early sign of pericarditis.

When we come to a consideration of the diagnosis of *pericardial effusion* we are confronted by a confused tangle of conflicting statements. Fortunately a recent discussion at the Royal Society of Medicine[1] has done much to separate fact from theory, and thus to provide a sounder basis for bedside investigation. The chief points made were that bulky pericardial effusion almost never occurs in rheumatic carditis, and that most of the signs hitherto supposed to indicate the presence of such an effusion are in reality due to dilatation of the heart, the consequence of the myocardial changes which are invariably present in acute rheumatic carditis. This latter statement applies with special force to the "pear-shaped" dulness which has been regarded as a sign of effusion. This change from the normal area is due to extension of dulness in three directions: upwards and to the left, to the right in the fourth and fifth right interspaces, and to the left at the left base. Comparison of clinical and pathological data proves that these three expansions of the cardiac dulness are due not to intrapericardial exudation but to dilatation of the left auricle, the right auricle, and the left ventricle respectively. Again, the cardiac sounds may, and often do, become indistinct in carditis as a direct result of muscular enfeeblement. It is no use to depend on disappearance of friction sounds, as even in the presence of a large effusion a rub may still be heard at the base. Hirtz[2] describes two cases of effusion in which the patient found the knee-elbow position the only comfortable attitude; but, as Miller[3] points out, children with "dry" pericarditis often lie on their faces to gain relief from pain. The "pulsus paradoxus," which Jacob and Chavigny[4] regard as the most reliable sign of effusion, was rejected by the chief speakers at the Royal Society discussion as quite uncertain.

What, then, remains? Ogle laid considerable emphasis on the value of non-pulsatile distension of the jugular veins, and West said that in his opinion extension of the area of dulness downwards and to the left, *well beyond the point of maximum impulse*, was the one reliable sign. Examination with the

[1] *Proc. Roy. Soc. Med.*, 1909–10, iii. (Med. Sect.) 55, 77.
[2] Hirtz, *Nord Méd.*, 1911, June 1st.
[3] Miller, *Medical Diseases of Children*, 1911, p. 375.
[4] Jacob and Chavigny, *Rev. de Méd.*, May, 1911.

X-rays is sometimes impracticable, but it may give valuable help. The cardiac shadow is said to become globular in effusion, with sharp non-pulsatile edges, and Rosenfeld[1] goes so far as to say that he has seen the ordinary cardiac shadow, triangular and pulsating, in the midst of such a globular area.

The fact is that it is very seldom indeed that fluid is poured out into the pericardial sac so freely as to embarrass the heart or to render paracentesis or drainage necessary. Even if it is clear that the pericardial sac should be opened, opinions differ as to the best method. The figures collected by Venus[2] go to show that incision, with resection of rib and free drainage, gives the highest percentage of recoveries. Jacob and Chavigny[3] go so far as to advise pericardiotomy without preliminary puncture; but we do not anticipate wholesale conversion of the profession to their view. Probably the majority will still prefer paracentesis, at least as a preliminary and exploratory measure. Ortner[4] advises that puncture be made in the area of dulness to which West has attributed so much diagnostic importance—that which lies to the left of the point of maximum impulse—with Curschmann's flat trocar and cannula directed towards the apex beat. If fluid be found, its withdrawal should be effected gradually by syphon action.

Adhesion is a much commoner result of pericardial inflammation than effusion, but its exact clinical importance is difficult to gauge. Fenton's[5] conclusions are worthy of special attention, as they are founded on a wide examination of autopsy records. He finds two types of pericardial adhesion: the first is that of childhood, in which valves are also diseased and the heart hypertrophied, the whole group of changes being due to rheumatic invasion of all the cardiac tissues simultaneously. In such cases there are adhesions without as well as within the pericardial sac, and their effect upon the efficiency of the heart is appreciable and sometimes serious. The other type of adhesion is that of adult life; it is not rheumatic in origin, it is intra-pericardial only, and its clinical importance is practically *nil*. In the first class of case the adhesions exercise their deleterious influence on the efficiency of the heart rather by preventing recovery from the acute stage of carditis than by adding to the permanent burden of extra work which the heart is sentenced to bear in the form of valvular cicatrisations.

The diagnosis of pericardial adhesion is a matter of peculiar difficulty. The question to be answered at the bedside is, "Are

[1] Rosenfeld, *Münch. Med. Wchnschr.*, 1910, lvii. 1143.
[2] Venus, *Med. Press and Circ.*, Nov. 11th, 1908.
[3] Jacob and Chavigny, *loc. cit.*
[4] Ortner, *Deutsch. Med. Wchnschr.*, May 19th, 1910.
[5] Fenton, *Practitioner*, 1908, lxxxi. 637.

there adhesions which make the prognosis worse?" It is easy enough to guess that in any given case of rheumatic disease of the heart there must be some degree of pericardial symphysis. The difficulty is to assess the importance of such adhesions. There is no better way of doing this than by a general weighing of the clinical evidence. As Moore [1] says, the presence of serious adhesions is to be inferred from a relative failure of recovery from acute cardiac rheumatism—that is, an abnormal severity and persistence of symptoms and signs after the patient has passed out of the years in which rheumatism is active. The inference of adhesion in such cases is materially strengthened if, at an earlier date, direct evidence of pericardial inflammation has been noted.

None of the physical signs which have been described as diagnostic of adhesion are quite reliable; most of them are rather to be ascribed to the permanent enlargement of the heart, which is an invariable accompaniment of widespread adhesion, but which may of course be present when there is little or no adhesion. Even Broadbent's sign (systolic recession of the left lower ribs behind) may be most definitely present in cases of cardiac enlargement which autopsy proves to be independent of pericardial disease, as in Paterson's [2] case, and also in a scarcely less striking case observed by myself.

A proper appreciation of the almost insuperable difficulty of diagnosing adherent pericardium will militate against a too ready enthusiasm for the operation euphemistically called *cardiolysis*. Here is a lesion, adherent pericardium, which cannot be surely diagnosed. It is only a part, and often a relatively unimportant part, of a general disease of the heart, rheumatic pancarditis. It is not pretended that radical cure, even of the pericardial fraction of this disease, can be accomplished by operation, and yet it is proposed to dignify a clumsy attack upon a vital organ by the term "cardiolysis." It is only fair to say that some benefit appears to follow resection of parts of the præcordial thorax in cases of cardiac enlargement following rheumatic infection; but Bewley [3] and Morison, [4] who have submitted patients to the operation, believe that this is due to provision of more room for the exaggerated movements of the heart, rather than to liberation of its action by breaking down of adhesions, and that therefore the term "thoracostomy" is more accurate.

CAREY COOMBS.

[1] Moore, *Lancet*, 1910, ii.
[2] Paterson, *Glasgow M. J.*, 1911, lxxvi. 24.
[3] Bewley, *Brit. M. J.*, 1910, i. 914.
[4] Morison, *Lancet*, 1908, ii. 7.

SURGERY.

The surgery of gastric ulcers — Pathology. — (1) The circulation in the stomach is so richly provided with blood-vessels in the sub-mucosa that it is possible to ligature four-fifths of the large vessels without causing any necrotic lesion; but on the other hand any agent which can cause an obliteration of a large area of the small vessels will produce a chronic indolent ulcer. Thus these have been experimentally produced by the injection of formalin, alcohol, hot salt solutions, and solutions of adrenalin extract into the gastric vessels (Payr, Benecke, Rosenbach). It is probable that an analogous condition of sclerosis of the small vessels, with an obliterative endarteritis, occurs as an antecedent causative condition in many clinical cases of ulceration. Spasms also may temporarily obliterate the lumen of the vessels and so predispose to ulceration. Thrombosis and retrograde portal embolism account for those cases of gastric ulcer which occur as a complication of septic lesions, such as appendicitis. (2) Nerve lesions. Division of the vagi nerves causes chronic ulceration of a variable character and extent (Zironi, Marchetti), but it is highly problematical whether this has any clinical significance. (3) Chemical changes. The increase in hydrochloric acid and in peptic activity seen in cases of gastric ulcer may be either the cause or the effect of the latter. For an ulcer can itself stimulate secretion, and by causing either pyloric stenosis or spasm, it can bring about a prolonged action of the gastric secretion upon the stomach walls. All these changes quickly disappear after the excision of the ulcer, as well as after a gastro-enterostomy, and this fact suggests rather that the ulcer is the primary condition. (4) Trauma and bacterial infection are seldom the sole cause of ulceration, but they may act as contributory causes when the predisposition to this lesion already exists. (5) Toxic conditions, *e.g.* acute appendicitis, may cause severe bleeding from the stomach, but usually this is more of the nature of a general weeping than an ulceration; or such conditions, including severe burns, may act either as specific gastric poisons, or as agents which act by causing thrombosis. Bolton has shown how the injection of emulsions of tissue cells, especially those from the stomach itself, may cause gastric ulcer. (6) Anæmia acting alone will not cause gastric ulcer, but when it occurs in association with other more directly potent agencies, it greatly retards the healing of these lesions.

The relation to cancer.—There has perhaps been no more important recent advance in the pathology of gastric disease than the proof that a large proportion of cases of gastric cancer begin as simple ulcers. All recent workers agree that this proportion is a large one, but about the exact figure there is

great difference of opinion. Thus Payr, Küttner, Wilson and McCarty, Mayo Robson and W. Mayo give figures which vary from 25 to 71 per cent. These results have been discredited by those who regard the matter from a purely clinical standpoint. That is to say, there is only a small proportion of those who are known to have suffered from chronic ulcer who subsequently develop cancer. But if all cases of cancer are examined microscopically by serial sections, then it is proved that the majority are malignant developments of simple ulceration. It is easy to explain this discrepancy. The cases of cancer may have had a period of latent ulceration which was overlooked clinically, and this supplies a most important reason for submitting all cases of gastric disease to operative interference before sufficient time has elapsed to allow of malignant development.

Symptoms.—Pain is perhaps the most constant symptom of gastric ulcer, and its position corresponds roughly to that of the causative lesion. Thus, pain to the right of the epigastrium is due to a pyloric ulcer, that to the left is caused by an ulcer of the lesser curve, whilst pain in the back is produced by an ulcer adherent to the pancreas; and yet the gastric mucous membrane is quite insensitive to ordinary pain-producing stimuli. This has often been observed in operations done under local anæsthesia, and it has been fully elaborated by Hertz. According to this author, gastric pain is of twofold origin, either being caused by inflammatory adhesions dragging upon the sensitive parietal peritoneum, or by an excessive or unnatural spasm of its own fibres.

Diagnosis.—It has for long been recognised that the majority of chronic ulcers of the stomach cause bleeding, which can only be recognised by microscopical or chemical examination of the gastric contents or fæces. In about three-fourths of all cases occult bleeding thus occurs. Einhorn has introduced a simple and ingenious test and demonstration of the existence and situation of this bleeding. A small hollow weight, shaped like a little bucket, is attached to a long stout silk thread, and the patient swallows it like a pill, the end of the thread being securely fastened to one of the teeth. It is left overnight in the fasting stomach, and withdrawn next morning. If an ulcer exists, its position, *i.e.* its distance from the teeth, is marked on the white silk by an indelible blood-stain, and in some cases two stains have been present, and subsequent operation has revealed two ulcers.

In cases of severe hemorrhage from the stomach which do not yield to medicinal treatment but require operation, the bleeding often occurs from one or two quite small erosions. Rovsing has employed a quick and efficacious method of finding such bleeding points. He exposes the stomach, and then

inserts through a small hole in its wall an endoscope with an air-dilating attachment. When the stomach is inflated and illuminated, the bleeding point or points show up as distinct shadows. A great number of gastroscopes have been introduced, of which by far the simplest, and therefore of most use for the uninitiated, is a simple straight tube, with the lamp at the distal extremity. But at present it seems likely that the use of the X-rays will quite supersede the various forms of endoscopic examination. The writings of Holzknecht are those in which most information can be found on this subject, and Schmieden has quite recently contributed a profusely illustrated paper upon it, which is followed by a useful list of other references. These authors hold that the X-rays, after feeding the patient with bismuth emulsion, are capable of demonstrating the size, shape, and position of the stomach, together with any abnormalities in the outline of its cavity, whether caused by ulcer, tumour, or hour-glass contraction; but a very long experience of this method is necessary before its results can properly be interpreted, and we think that it is going too far to say that it makes exploratory operations quite unnecessary. Rowlands has pointed out that it is very easy to be deceived by the bismuth test and the X-rays, in mistaking a dilated and downwardly-displaced stomach for one with an hour-glass contraction. In the former the shadow passes at once from an upper chamber into one immediately below, whereas in the latter a long interval elapses, and the distal pouch is then seen to lie to the right of, and not below the proximal.

The chronic pain of gastric ulcer may be simulated in cases of epigastric hernia, gastroptosis, arterio-sclerosis and tabetic crises, and such conditions should always be borne in mind before submitting a case to operation.

Treatment.—It is only the chronic ulcer, or that complicated by perforation or intractable hemorrhage, that requires surgical treatment. Until recently it has been usual to regard the operation of gastro-enterostomy as a sovereign remedy for all chronic ulcers; but this view requires modification. The case most certainly and permanently relieved by this operation is one in which there is definite stenosis of the pylorus, and in which the symptoms are those of this stenosis (*i.e.* emaciation, vomiting, and the decomposition of the stomach contents). But when the ulcer affects the lesser curvature of the stomach, or when the chief symptom is chronic bleeding, then a more efficient remedy consists in an excision of the ulcer, or a resection of that part of the stomach containing it. And the advisability of performing a wide resection rather than a mere short-circuiting operation is strengthened by two considerations: (1) That many of the chronic inflammatory masses are only the early stages of malignant growth; (2) after gastro-enterostomy

there is a tendency for a peptic ulcer to form in the jejunum, and this may cause the same symptoms as those due to the original disease, or it may lead to perforation. It is difficult to compare the results of the two methods, *i.e.* of gastro-enterostomy and resection, because the latter being comparatively new, its technique is not perfected to the same extent as the former, and sufficient time has not elapsed for its lasting results to be confirmed. Payr gives the following figures. Immediate mortality—for gastro-enterostomy, 5 per cent.; for resection (600 cases), 10 to 12 per cent. Ultimate cures—for gastro-enterostomy, 50 to 75 per cent.; for resection, nearly all cases are up to the present fully cured, but sufficient time has not yet elapsed to state definite figures.

In cases associated with hemorrhage it is of the utmost importance to determine whether the causative condition is a recent acute or an old chronic ulcer. In the former case an operation is rarely required. Atropine in full doses has been found to be of great service, because by paralysing the stomach it allows the natural means of arrest to take effect. If the bleeding is from a chronic ulcer, the operative treatment ought not to be delayed, because the longer one waits the worse does the patient's condition become. If the patient is desperately ill, a gastro-enterostomy is the quickest operation, but it is by no means of constant permanent efficacy. Therefore, if possible, the bleeding ulcer ought to be excised, or if it is situated in the pylorus this should be divided after the performance of a gastro-enterostomy, or, best of all, the diseased pylorus should be resected.

After a perforation has been located and dealt with, it is a matter of importance to keep the stomach at rest, and at the same time it is necessary to feed the patient, especially if they are weakened by long illness. In some cases it is possible to perform a gastro-enterostomy after closing the perforation, but this involves danger both from prolongation of the operation and from a diffusion of septic material. In these cases one of two things may be done: (1) A tube is fixed through a small stab wound in the front of the stomach, and thence passed through the pylorus into the duodeum; or (2) a tube is tied into the jejunum, and in either case this tube serves for feeding the patient. Mayo Robson has recently advocated the latter method, both for its simplicity and efficacy.

E. W. HEY GROVES.

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NOTE.—In the above account, when no special authorities are quoted, they may be found by a reference to Prof. Payr's article, to which is appended a long list of original papers.

OBSTETRICS.

The use of Pituitrin in Obstetrics.—The action of pituitrin on the uterus during labour has now been studied by numerous observers, and we are in a position to judge to some extent of its value in obstetric practice. The drug, as is well known, is obtained from the posterior lobe of the pituitary gland. Apart from its stimulating action on uterine muscle, pituitrin raises the blood-pressure, and increases the force of the contraction of the heart. It also increases diuresis, intestinal peristalsis, and the contraction of the bladder. In a series of thirty-four cases in which the drug was employed during labour, it was found that its action differed considerably, even when the same dose was employed. In most cases the pains became stronger, and the intervals shorter. In six cases, however, it was found necessary to repeat the injection once before a satisfactory increase in the strength of the labour pains was induced, and in one case a third injection was required. Hahl,[1] who records these cases, remarks that although on the whole he obtained excellent results, he thinks that some observers have over-estimated its value in uterine inertia.

In cases where large doses are given after the membranes have ruptured, there is some danger to the child's life, as the drug shortens the period between the contractions, and raises the intra-uterine pressure during this period, so that it would appear that a large dose might cause tetanic contraction of the uterus.

The action of a second injection of pituitrin on the same patient is not invariably similar in all cases. Sometimes it acts more powerfully, and sometimes less so than the first injection. *Post partum* the drug should be given in one large dose, 1 gm. giving very satisfactory results. No toxic effects have been observed after the injection of the drug either during or after labour, but its use is not advisable in cases of high blood pressure. Ross reports thirteen cases in which he obtained good results when the labour pains were flagging, and he was thus able to deliver patients in cases where forceps would otherwise have been necessary. He never noticed any harmful effect

[1] Hahl, *Brit. M. J.*, Dec. 16th, 1911.

either on the mother or child. Schiffman[1] also records a series of fourteen cases in which pituitrin was given for abortion. In three of them it had no effect in inducing the onset of pains so long as the cervix was closed, but after dilatation pituitrin was effective in two out of the three cases. Out of seven cases in which abortion was already in progress and the cervical canal was patent, the injection was effective in four, and ineffectual in three. In some cases repeated injections were successful when a single one had failed. As a result of his experience he finds that pituitrin is extremely useful in full-time pregnancy as a means of inducing strong labour pains, especially where pains have already set in, but have become weak or ceased. It is not suited for the induction of abortion. It may, however, be useful in cases of abortion after artificial dilatation of the cervix, when introduction of the hand into the uterus is, for any reason, inadvisable.

* * * * *

Obscure symptoms caused by fibromyomata of the uterus.—There is now a considerable amount of evidence in support of the view that various obscure toxic symptoms may result from latent necrosis of a fibromyoma of the uterus. These symptoms include a rise of temperature, rapid pulse, with general and progressive debility, while beyond the presence of the tumour there may be no sign or symptom referred to the pelvic organs. In these cases careful observation of the patient over a considerable period is often necessary to decide whether the symptoms of general toxæmia are due to an inflamed condition in the pelvic organs or elsewhere. As the signs of toxæmia often include adventitious murmurs heard over the region of the heart, the physician is liable to conclude that the cardiac condition is primary and not secondary. One valuable guide to the existence of latent necrosis of a fibromyoma of the uterus is its rapid growth in the absence of pain or tenderness on pressure. Kaarsberg[2] records a series of cases in which various circulatory disturbances such as irregular action of the heart, adventitious murmurs, and cardiac dilatation appeared at an early stage, the result, he thinks, of toxæmia caused by obscure changes taking place in the tumours, some of which showed on careful examination, after removal, nothing beyond a necrotic area in the substance of the tumour. Further evidence in support of the view that these tumours may cause toxic symptoms even without the presence of necrosis is to be found in the fact that removal of the tumour has a striking influence on the health of the patient, whose vitality is markedly increased after the operation.

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[1] Schiffman, *Wien. klin. Wchnschr.*, No. 43, 1911.

[2] Kaarsberg, *Hospitalstidende*, Aug. 23rd, 1911.

Reviews of Books.

A System of Medicine. By Many Writers. Edited by Sir CLIFFORD ALLBUTT, K.C.B., M.A., M.D., and HUMPHRY DAVY ROLLESTON, M.A., M.D. Vol. IX. **Diseases of the Skin. General Index.** Pp. xviii, 869. London: Macmillan and Co. Limited. 1911.

It is almost a pity that this volume on Dermatology should to some extent lose its identity by being part of a System of General Medicine. There is a risk lest readers should be misled into supposing that the subject will not be exhaustively dealt with as a branch of the larger field. But there must be no room for such an error. The collection of monographs on skin diseases contained in this the concluding volume of Allbutt and Rolleston's *System of Medicine* has no rival in the English language.

On first looking through the volume we thought of it chiefly as a valuable reference work for dermatologists; but a better acquaintance with it has convinced us that the articles are written in so readable a style, the various diseases are so easy of reference, and treatment so admirable, that every practitioner should possess and keep handy Allbutt and Rolleston's *On Diseases of the Skin.*

A System of Surgery. Edited by C. C. CHOYCE, B.Sc., M.D. Vol. I. Pp. xxii, 957. London: Cassell & Company, Ltd. 1912.

On looking through the list of contributors to this book one is led to expect a work of considerable merit. A perusal of the first volume in no way disappoints this expectation. It deals chiefly with pathology and general surgery.

In the first hundred pages the reader will find an extremely lucid account of the more important modern discoveries in connection with bacteriology. Those micro-organisms of chief surgical importance are carefully described with their staining and cultural peculiarities, and they are well illustrated by numerous photomicrographs. Such processes as Widal's and Wassermann's reactions are carefully described, and all the necessary technical details are carefully set forth.

Full accounts will be found of local and spinal analgesia. The writer of the latter is evidently quite an enthusiast. In our opinion he does not lay sufficient stress upon the disadvantages of this method as compared with general anæsthesia. He makes no mention of those tragic deaths which mar the record of even the most experienced administrators. Though we must admit similar occurrences when general anæsthetics are given, the proportion is undoubtedly less. Instances are, however, quoted of respiratory failure following Jonnesco's method of inducing high analgesia. In three out of nine cases in which it was tried at the Dreadnought Hospital, Greenwich, alarming symptoms supervened.

After reading Colonel Lambkin's article on syphilis, and noting his strong advocacy of intramuscular injection of mercurial salts, one cannot help wondering that one so seldom sees this method of treatment adopted in the clinic of a general hospital. Is it that both surgeon and patient are "needle shy," or is it that "Rep. mist." is so easy to stamp upon a card? Hydrotherapy as an adjuvant to the usual routine treatment is strongly insisted on. We think this is too often neglected.

Salvarsan has a chapter to itself. The treatment is fully discussed, and the different methods of giving the drug are described in detail. Interesting photographs of patients before and after treatment are appended.

The chapters on military surgery and on radiography are particularly interesting.

Some of the radiograms in the book are beautiful specimens. The illustrations throughout are of a high order of merit. Printing and paper are good, and the book is well spaced and headed. There are few printer's errors. We trust that "injection" and "infection" (p. 681) are not often synonymous.

Tuberculous Diseases of Bones and Joints. By Sir W. WATSON CHEYNE. Pp. xi, 411. London: Oxford Medical Publications. 1911.

We welcome a second edition of this most valuable book. We have always considered it to be one of the best books—if not the best—on the subject. As the first edition was published in 1895, we are very glad to have it brought up to date by a new edition, which gives the results of a wider experience of the author than the last. We notice the addition of many skiagrams and pictures illustrating the clinical aspects of joint disease, and these are very helpful. In the preface to this

new edition Sir Watson Cheyne tells us that operative interference seems to be less often required now than when the first edition of the book was published, *i.e.* nearly seventeen years ago. In the chapter on "Operation *versus* Expectant Treatment." he suggests that more cases now recover without operation because of the better hygienic conditions under which we live at the present time and of the disease becoming less virulent. But he says in his preface that it is especially the frequency of operations at the early period of the disease, and in the absence of suppuration, which has been steadily diminishing of late years. Now, operation in an early stage of the disease and in the absence of suppuration has not been generally regarded as necessary, and it may be that the few surgeons who did practise it have wisely abandoned it. It seems to us probable that many of the cases operated on in this stage would have recovered without operation, and hence that there is no need to suppose that the recovery of similar cases at the present time without operation is due either to improved hygienic conditions or to the disease being of a less virulent form. It is so very difficult in many cases to say how far Nature can be trusted to effect a cure, as we have usually only probabilities to guide us in our decision, and it is quite possible that cases which do well after operation might do as well without. We believe that many cases of tuberculous peritonitis which are said to have been cured by coeliotomy would have recovered equally well without, as it is known that many such cases recover under medical treatment alone.

Sir Watson Cheyne tells us that he has been very disappointed with the results of vaccine treatment, and that he has not seen any greater improvement in joint or bone disease by the use of the vaccine method than he would have expected to follow careful treatment on former expectant lines. But he does not seem to be without some hope of its doing good even after so disappointing an experience, for he continues to employ it in conjunction with operative and other measures. We are not surprised at his disappointment with so unreasonable a method of treatment, and we predict that when the next edition of his book appears he will tell us that he has entirely given up its use.

The author refers very favourably to the treatment of abscess in connection with tuberculous diseases of the joints and spine, by aspirating them, as practised with such success by Drs. Calve and Gauvain at the Cripples' Hospital at Alton. This is not, of course, a new treatment, but it has been brought prominently to the notice of the profession by the publication of a paper on the subject by these two surgeons. Sir Watson Cheyne says he still thinks that when the abscess sac cannot be dissected out the best treatment where the surgeon can be sure of asepsis

is to open, scrape and flush them out; but if this cannot be done, he recommends aspiration as practised by Calve and Gauvain.

The Treatment of Syphilis with Salvarsan. By Dr. WILHELM WECHSELMANN, with an Introduction by Dr. PAUL EHRLICH. Translated by ABR. L. WOLBARST, M.D. Pp. 175. London: Rebman Limited. 1911.

The Experimental Chemotherapy of Spirilloses. By PAUL EHRLICH and S. HATA. Translated by A. NEWBOLD, and revised by ROBERT W. FELKIN, M.D. Pp. xv, 181. London: Rebman Limited. 1911.

"Salvarsan," or "606." By W. HARRISON MARTINDALE, Ph.D., and W. WYNN WESTCOTT, M.B. Pp. xv, 77. London: H. K. Lewis. 1911.

These three books are all concerned with Ehrlich's researches into the curative properties of the organic arsenic compounds. The first book, by Wechselmann and Ehrlich, deals with the treatment of Syphilis only. It is well printed, and contains some excellent illustrations; but we are not carried away by the artistic merits of the latter. Syphilis under any treatment or none displays innumerable changes. Salvarsan or "606" is the subject of the book, and the account of its use and its dangers is given very fully. It is a book to master before venturing for the first time on the administration of Salvarsan in Syphilis. Experience will teach the administrator to temper its enthusiasm by his own observations.

In *Chemotherapy* a full description is given of many experiments with various arsenic compounds in syphilis, relapsing fever, spirillosis of fowls, and frambœsia. The greater part of the book is occupied by Hata's work on the effect of drugs on spirilla generally, and on syphilis in rabbits. There are short contributions by H. J. Nichols upon the effect of "606" on Spirochæta Pertenuis in the Animal Body, by Julius Iversen on the Chemotherapy of Relapsing Fever, by Bilter and Dreyer (of Cairo) on Relapsing Fever treated in the Cairo Infectious Hospital. The concluding remarks are by Ehrlich, in which he expresses the hope that by such methods as are laid down in this book "we may approach nearer and nearer to the principle of the *Therapia magna Sterilans*."

Martindale and Westcott have collected into a handy and readable volume the essential parts of both the other books. English readers will probably prefer to depend upon this reliable summary.

The Treatment of Fractures by Mobilisation and Massage. By JAMES B. MENNELL, M.D., B.C. Pp. xvi, 458. London: Macmillan & Co. Limited. 1911.

This book is written by a late House Surgeon of St. Thomas's Hospital who has been in charge of the Casualty and Physical Exercise Departments. It sets out the author's personal experiences in the treatment of fractures by the methods advocated by Professor Lucas-Championnière, who writes a Preface in French for it. These experiences are based upon upwards of 400 cases, almost all of which have been out-patients or casualties. It follows from this that cases of such gravity as required their admission as in-patients have not come under the author's observation. The sections dealing with fractures of the lower extremity are therefore of very much less value than the rest of the book.

As an exposition of the Mobilisation and Massage method in the treatment of fractures it is most clear and convincing, and to English readers it is of particular value because it gives an understanding of Professor Lucas-Championnière's methods, which it is difficult to obtain from any other English source. For example, the term "massage" conveys quite a false representation to the English reader of this method of treating fractures, unless it is very carefully qualified and explained.

This is most clearly shown by the statement that this treatment ought never to be trusted to a professional masseur. The cardinal principle underlying the whole method is the relief of pain and muscular spasm by means of stroking so light as to be compared to stroking a cat or mesmeric passes. The rationale of this principle is discussed and explained in the present volume with the utmost clearness. This light stroking massage, if successfully carried out, appears to act with greater potency than the most profound anæsthesia, for it not only abolishes pain, relaxes the muscles, and allows a re-position of the fragments, but it maintains these desirable conditions for a considerable length of time.

So soothing is the treatment, that the patient often falls to sleep while it is being carried out. So remarkable indeed is the resemblance of this method to the phenomena of hypnosis, that one is tempted to ask the question whether the two processes are not one and the same. Is the success of this treatment dependent upon the possession of a special occult gift on the part of the operator?

Dr. Mennell's criticisms of other methods of treating fractures are naturally somewhat extreme, but perhaps they are fair and reasonable. The classical method of long immobilisation on a splint is everything that is evil; operative treatment for fractures is to be reserved for those cases in which light

stroking fails to effect a reduction; the method of continuous weight extension, advocated chiefly by Bardenheuer, is scarcely mentioned. None of the advocates of extreme views relating to the treatment of fractures pay sufficient attention to the discussion of the special kind of cases suitable for their method. The vast bulk of medical practitioners in England and the continent are accustomed to obtain good results from the splint method of treating fractures in most of their cases. The method advocated in the present volume, although it does not involve any risk to the patient's life, is contrary to the prejudices of the public, and it demands an excessive amount of personal attention on the part of the medical man. We think, therefore, it will never be generally adopted until its authors can more precisely indicate the special type of case in which it is demanded. The book is throughout well written and illustrated, and it forms a most welcome and valuable addition to the English literature on this subject.

Public Health Laboratory Work. By HENRY R. KENWOOD, M.B., F.R.S. Edin., and W. G. SAVAGE, M.D., B.Sc. Fifth Edition. Pp. xiii, 446. London: H. K. Lewis. 1911.—The present edition of this admirable and exhaustive text-book of laboratory methods has been brought well up to date and generally revised. It is too well known and too widely used to need any special description in this place, but we may confidently state that it is one of the most useful of laboratory handbooks, being remarkably clear and concise in style and very reliable in detail. We note that the effect of CO_2 on bacterial life in water is held to render aerated bottled waters safer than ordinary water from impure sources; that the expert tea taster can very accurately estimate the purity and genuineness by its odour and taste, which fact has recently been given further value by the experiments published in the *Lancet*, shewing that the "æsthetically" excellent teas also contain a higher percentage of caffeine and a lower percentage of free tannic acid than the so-called inferior varieties. Under the heading of poisonous and edible fungi, reference is made to the capital little book published at a very low price by the Department of Agriculture and Fisheries, which others than laboratory workers would be well advised to read. With regard to air, there is a good description of Haldane's rapid method of determining CO_2. The bacteriological examination of water, air, milk, etc., has been written by Dr. Savage, whose researches into these matters are well known, especially in connection with the bacteriology of milk and the group of organisms named after Gaertner. The *Lancet* method of testing disinfectants is described as "simple and serviceable." The rapid appearance of successive editions of this handbook

demonstrates its popularity in a practical way; the increasing imporance and complexity of the subjects with which it so adequately deals, and the care with which each edition is revised and extended, are sufficient to account for that popularity in a highly satisfactory manner.

Landmarks and Surface Markings of the Human Body. By L. BATHE RAWLING, M.B. Fourth Edition. Pp. viii, 96. London: H. K. Lewis. 1911.—The fact that Mr. Rawling's little book has reached its fourth edition shows that it has met with the success it deserves. Its chief merit lies in the excellence of the illustrations, which are both clear and accurate. It would be well if this type of anatomy took a much more prominent place in the student's curriculum.

Diseases of the Spinal Cord. By R. T. WILLIAMSON, M.D., F.R.C.P. (Second impression.) Pp. xi, 432, vii. London: Oxford Medical Publications. 1911.—It is a comparatively short time since we noticed the first edition of this authoritative work. The favourable opinion then formed of it has been endorsed by general experience to such an extent that the first impression has been exhausted and a second already issued. There are no material alterations; the book was too good to require any great overhauling and remodelling; but room has been made to add short accounts of the most important contributions to our knowledge of diseases of the spinal cord in an appendix. Reference is made to the epidemiology of infantile paralysis, to the Wassermann reaction in spinal syphilis, to spastic paraplegia of infancy (Little's disease), to the X-ray treatment of syringomyelia, and to some surgical procedures for spinal cord diseases.

An Introduction to Dermatology. By NORMAN WALKER, M.D., F.R.C.P. Fifth Edition. Pp. xviii, 346. Edinburgh: William Green & Sons. 1911.—When we reviewed the fourth edition of Dr. Walker's book in 1908 we had nothing but praise for it. The fifth edition confirms us in our opinion that this is by far the best elementary work on skin disease both for students and practitioners.

Hygiene and Public Health. By Sir ARTHUR WHITELEGGE, K.C.B., M.D., etc., and Sir GEORGE NEWMAN, M.D., D.P.H. Twelfth Edition. Pp. x, 760. London: Cassell & Company, Limited. 1911.—A twelfth edition needs no commendation and gives little scope for criticism. The book is intended for the health officer as well as for the student. It should be a *vade-mecum* and a mine of wealth to both. This edition has been revised throughout, and some considerable enlargement has been unavoidable since the last of three years ago. We take the opportunity of tendering our congratulations to the authors on their well-earned distinctions.

Feeble-mindedness in Children of School Age. By C. PAGET LAPAGE, M.D., M.R.C.P. With an Appendix on "Treatment and Training," by MARY DENDY, M.A. Pp. viii, 359. Manchester: The University Press. 1911—This book, as the author states, is intended as a guide for school medical officers, teachers, and those social workers whose interest in the welfare of feeble-minded children has been stimulated by the Report of the recent Royal Commission on the Care and Control of the Feeble-minded. Its further objects are to emphasise the importance of public control of the feeble-minded, and the value of their permanent segregation as a means of preventing them from propagating their species. Not only does Dr. Lapage develop these points successfully, but he devotes several chapters to the medical aspect of the various types of feeble-mindedness. A valuable appendix by Miss Dendy, whose work as Honorary Secretary of the Lancashire and Cheshire Society for the Permanent Care of the Feeble-minded enables her to speak with authority on the subject, deals with the training and management of feeble-minded children, and is written on the assumption that the children to be cared for are to be detained for the whole of their lives. Altogether the book is a most excellent one.

Where the World Ends. By A. A. H. Pp. 95. Jungingen-Hefti, Arosa, Switzerland. 1911.—The author, a former chaplain, with the assistance of Dr. Egbert C. Morland and others, has written a description of Arosa as a centre for summer holidays or winter sports and as a health resort for convalescents and invalids. To us the principal interest of Arosa is derived from the fact that it is one of the latest, the highest, and probably the best resort for early cases of consumption, those who may reasonably expect a radical cure. Both for diagnosis and treatment every facility is found: all the various bacteriological and other test methods are in full use, and X-ray examinations are done in the best way. The title indicates the position of Arosa at the far end of one of the most beautiful valleys in Switzerland, 6,000 feet above sea level, but surrounded by peaks five to six thousand feet higher. It is interesting to find in the centre of the old churchyard, Inner Arosa, the tombstone of Dr. Reudi, for many years the leading physician at Davos-Platz, who after wanderings in the Western Hemisphere ended his days amongst the mountains where he had lived. The hotels and sanatoria enable patients to do the best thing possible for their cure.

Theory and Practice of Thyroid Therapy. By HERBERT EWAN WALLER. Pp. xii, 154. London: John Bale, Sons and Danielsson, Ltd. [N.D.]—The author of this book is an enthusiast on the subject of the thyroid gland. He finds thyroid insufficiency everywhere. He considers it the cause of enlarged tonsils and adenoids, dental caries, constipation, urticaria, anæmia, rickets, nocturnal enuresis, and many other affections

too numerous to mention ; accordingly he advises the administration of thyroid extract in all these and even in Graves's disease. He gives us some interesting theories about the function of the thyroid gland, mostly based on his therapeutical experience, and deprecates all operations on the thyroid gland itself. The book is well worth reading, as it is full of interesting suggestions ; but as it is not based on physiological experiment, we fear it will not bring us any nearer to an explanation of the mystery which still surrounds its subject.

An Introduction to Therapeutic Inoculation. By D. W. CARMALT JONES, M.A., M.D. Pp. xiii, 165. London : Macmillan & Co. Ltd. 1911.—In this book, illustrated by one coloured and four folding plates, the author has set forth in a readable manner the principles underlying vaccine therapy and the results obtained in practice. Although the work is obviously that of an enthusiast, it is well worth perusal.

Carbonic-Acid Snow as a Therapeutic Agent in the Treatment of Diseases of the Skin. By R. CRANSTON LOW, M.B., F.R.C.P. Pp. xi, 117. Edinburgh : William Green & Sons. 1911.—If the first case to be treated by solid CO_2 snow was not until 1905, it cannot be claimed that a long experience has justified the use of this agent. On the other hand, it has abundantly proved its usefulness in this short period, and Dr. Cranston Low, in his collected notes and observations on this subject, indicates a widening field for it. Like most early publications on any new therapeutic agent, these notes of Dr. Low's are more by way of being suggestions as to methods of using the CO_2 snow, and some indications as to what class of cases it is likely to benefit, rather than an exhaustive monograph on the subject. Superficial lesions can undoubtedly be dealt with very effectively, and the effect upon cavernous nævi is a very happy one. If such complaints as xeroderma pigmentosum and chloasma can successfully be treated by this method it will prove of peculiar service to dermatologists. We think it necessary to enforce the warning that CO_2 snow produces scarring, and that there is a possibility of leaving a more extensive, if less unsightly, condition than the original lesion. We think also that there is evidence of idiosyncrasy in some persons apart from any sensitisation by means of the X-rays. We agree with Dr. Low's statement as to the treatment not being painless, for in certain parts—*e.g.* near the exits and along the course of sensory nerves, as well as round the finger-nails—the pain may be considerable. But even so there are so many ways in which CO_2 snow can be useful, and the apparatus is so simple to manage, and so dortable, that we believe its use will become extensive, and this work of Dr. Cranston Low's should prove a useful guide to any who care to give it a trial.

Ambulance Examination Questions. By D. M. MACDONALD, M.D. Pp. 24. Bristol: John Wright & Sons Ltd. 1911.—If ambulance students can answer all these questions, and use the knowledge they imply in a practical manner, they ought to be able to render "first-aid" skilfully in any emergency. A series of problems and answers are included, and a description of Prof. Schäfer's Method of Restoring Animation in the apparently drowned.

E. Merck's Annual Report. Vol. XXIV. Darmstadt. 1911.—This well-known annual is much appreciated, and is recognised as a reliable book of reference for the impartiality which characterises its compilation. It comprises 380 pages, including a communication of 38 pages on the therapeutic uses of the cacodylates. Medical men can obtain a free copy on application to the London office, 16 Jewry Street, E.C.

Manual of Physiology. By H. WILLOUGHBY LYLE, M.D., B.S., F.R.C.S. Pp. xv, 747. London: Oxford Medical Publications. 1911.—The author of this text-book has been a well-known and successful teacher of physiology at King's College, with a special reputation in preparing for the first F.R.C.S. He has now been prevailed upon to commit his teachings to paper, and a very valuable book is the result. It is smaller than the manuals in common use, but contains a good deal more information. This has been accomplished by adopting a synoptic style, omitting all reference to histology, embryology and practical methods, and curtailing the illustrations, which are mostly of a simple and diagrammatic character. The beginner would probably find it difficult to read, but for the advanced student and for purposes of reference it will be indispensable. The chapters on physiological chemistry, the eye, the structure of the central nervous system, and circulation are particularly good. Perhaps there might be a little more elaboration of the descriptions of the ductless glands, especially the pituitary, and of the functions of the semicircular canals and the cerebral cortex in the light of recent researches. Nevertheless, there is not a text-book in the English language which gives so much accurate and up-to-date information on all branches of physiology.

A Manual of Physics for Students of Medicine. By HUGH CANDY, B.A., B.Sc., F.I.C. Pp. viii, 384. London: Cassell and Company Ltd. 1911.—Students preparing for the examinations of the Conjoint Board, who do not wish to burden their minds with unnecessary facts, will welcome this little book, which is clearly written, copiously illustrated, and contains just enough and no more. It deals with heat, light, sound and electricity; there is a practical section at the end. It is specially written for medical students.

Editorial Note.

Dr. J. B. Siddall.

We learn that the Emperor of Japan has performed a most graceful act in conferring the Order of the Rising Sun on Dr. Joseph Bower Siddall, M.D., C.M. Aberd., D.P.H. Camb., formerly of St. Thomas's Hospital, and now residing at Malvern.

Dr. Siddall was formerly House Physician and afterwards Physician to the Bristol General Hospital. We congratulate our old Bristol *confrère* on this recognition (although so long delayed by red-tape difficulties) of his services to Japan in his early years in 1868 and 1869, when he established a large hospital in Tokio, which became the nucleus of a medical school at which many who are now leaders in the medical work of Japan were some of the earliest students. He rendered valuable service in aiding the Japanese wounded in their revolutionary war at a time when wounded prisoners were usually put to death. The "Rising Sun" holds the same place in Japan as the Order of the Bath does with us, and is the highest honour that can be conferred on subjects not of noble birth for public services, and Dr. Siddall is the only member of the profession in England who holds this decoration.

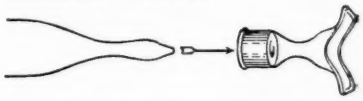
Notes on Preparations for the Sick.

A New Nasal Attachment for "Vaporole" Ammonium Chloride Inhaler.—Burroughs, Wellcome & Co., London.—Ammonium Chloride vapour is usually inhaled by the mouth, but in some cases it is preferable to inhale through the nostrils and allow the vapour to escape by the mouth. For this purpose a new nasal attachment has been introduced. Instead of twin bulbs to go inside the nares an expanded orifice with flanged

edges is used. It is made of glass, and so shaped as to be adapted to the physical configuration of any patient.

The orifice is placed in position beneath the nose, and the depression in the centre permits the flanged edges to enclose the outer edges of the nares.

This method is to be preferred both on æsthetic and hygienic grounds. The new nasal attachment is fitted with a rubber plug for the reception of the ordinary mouthpiece of the "Vaporole" Ammonium Chloride Inhaler, thus rendering the complete outfit suitable for either nasal or oral inhalations. A noteworthy feature of the "Vaporole" inhaler is the exact measurement of ammonia and acid which is effected by supplying the requisite quantity of each in atomic proportions in two hermetically-sealed glass containers covered with gauze. These "Vaporole" containers are fractured and placed in a tube, and the mingled vapours, automatically filtered and supplied with sufficient moisture, are inhaled in a pure and neutral condition.



Colloid Metal Therapy: "Collosol" Argentum, "Collosol" Hydrargyrum (Crooke's).—OPPENHEIMER, SON & Co., London.—These solutions of metals in a colloid state have very remarkable therapeutic properties, the actual particles of metal present are in an extremely minute state, they cannot be removed from the liquid by filtration as they pass readily through the pores of the filter, by ultramicroscopic examination (they are invisible under the ordinary microscope) these particles are seen to be remarkably even in size, and they exhibit marked Brownian movement. Physical tests show that these metals are included under the classification of Reversible Colloids. Perhaps the most remarkable property of "Collosols" is their absolute freedom from toxic effects to the human organism, notwithstanding their very high bactericidal power

These special Colloid solutions of the metals are manufactured solely in the Crooke's Laboratory. The most striking advantage they possess over ordinary Colloid solutions is their stability; they are not precipitated by the blood. The sphere of utility of these preparations is practically unlimited. Though of recent introduction, they have already proved to be the treatment *par excellence* for the many diseases in which their use is specially indicated. They are used by hypodermic injection or by the mouth, and it is stated that they are powerfully antiseptic and bactericidal.

Agarase: a combination of Agar-Agar with Bulgarian Lactic Ferment.—ROBERTS & Co., New Bond Street, London.—It is prepared in tablet form and coated with Keratine. The average dose is two to three tablets with each of the three principal meals. They are said to be an efficient intestinal regulator, giving a rational treatment of constipation with no violent effects.

Peristaltin "Ciba": an aperient glucoside of Cascara-Sagrada Bark, soluble in water.—SOCIETY OF CHEMICAL INDUSTRY IN BASLE.—Adults take one tablet two or three times daily, or two to three tablets at one time in the afternoon or evening.

For continual use, the desired result can be attained with two tablets daily, often only with one.

Children[1] are given a correspondingly smaller dose in proportion to age and requirement, *i.e.* half to one, or one to two tablets daily, perferably dissolved in sugar water or mixed up with jam, etc.

Cascaromat.—EVANS SONS, LESCHER & WEBB, London.—Another preparation of Cascara which is very effective and useful.

Thaolayine.—ROBERTS & Co., London.—Another laxative of the Cascara type, not an immediate laxative or purgative, but a regular result is commonly obtained after several days' use. It is prepared as scales, cachets, compressed tablets and granules.

Ovogal.—J. D. RIEDEL Co., London, E.C.—A new cholagogue for biliary disorders. Much clinical evidence is given in favour of this albuminate compound with bile acids. It is strongly recommended for cases of cholelithiasis and other intestinal disorders. It is supplied in capsules containing half a gramme. One to three may be given several times daily.

Sal Antisepticus. (Huxley).—ANGLO-AMERICAN PHARMACEUTICAL Co., Croydon.—An alkaline antiseptic powder. A ready means of quickly preparing lotions, gargles and injections.

In 5 per cent. solution is equal to 1 in 1,000 solution of bichloride of mercury as a germicide, and superior to 2 per cent. solution of carbolic acid. The mild but bland astringency of this combination of antiseptics ensures freedom from locking up septic matter in the tissues.

It supplies a definite combination of reliable antiseptics in a dry granular condition ready for diluting as wanted, and is free from the dangers of corrosive carbolic acid of bichloride of mercury.

[1] Peristaltin chocolate is especially recommended for children on account of its pleasant form of administration.

The Library of the Bristol Medico-Chirurgical Society.

The following donations have been received since the publication of the List in December:

February 29th, 1912.

L. M. Griffiths .. .. 9 volumes.
J. A. Nixon, M.B. (1) .. .. 1 volume.

Mr. L. M. Griffiths has presented one framed picture, and Mr. James Taylor an unframed portrait.

EIGHTY-THIRD LIST OF BOOKS.

The titles of books mentioned in previous lists are not repeated.

The figures in brackets refer to the figures after the names of the donors, and show by whom the volumes were presented. The books to which no such figures are attached have either been bought from the Library Fund or received through the *Journal*.

Batten, F. E. .. .. *Poliomyelitis in Relation to the Spread of Infection by Schools* 1911
Berkart, J. B. .. *On Bronchial Asthma* .. Abridged 3rd Ed. 1911
British Pharmaceutical Codex, The 1911
Burghard, Sir W. W. Cheyne and F. F. *A Manual of Surgical Treatment.* New Edition. (Revised by T. P. Legg and A. Edmunds) .. Vol. I 1912
Cheyne and F. F. Burghard, Sir W. W. *A Manual of Surgical Treatment.* New Edition. (Revised by T. P. Legg and A. Edmunds) .. Vol. I 1912
Choyce, C. C. [Ed.] *A System of Surgery* .. .. .. Vol. I 1912
Davidson, F. .. *Sight Testing for the General Practitioner* 5th Ed. 1912
Denslow, L. N. .. *A Surgical Treatment of Locomotor Ataxia* .. 1912
Dickey, J. S. .. *Applied Anatomy of the Lungs and Pleural Membranes* 1911
French, H. .. .. *Medical Laboratory Methods and Tests* 3rd Ed. 1912
Gauchier, E. .. *Diseases of the Skin* (Tr. and Ed. by C. F. Marshall) 1910
Griffiths, F. G. .. *Studies in Pulmonary Tuberculosis* 1911
Hill, W.... .. .. *On Gastroscopy* 1912
Hurst, A. M. Marshall and C. H. *Practical Zoology* (Revised by F. W. Gamble) .. .. 7th Ed. 1912

Jee, Sir B. S. .. *A Short History of Aryan Medical Science* .. 1896
Lewis, T. .. .. *The Mechanism of the Heart Beat* 1911
Macewen, Sir W. .. *The Growth of Bone* 1912
Marie, P. [Ed.] .. *La Pratique Neurologique* 1911
Marshall, G. B. .. *A Manual of Midwifery* 1911
Marshall and C. H. Hurst, A. M. *Practical Zoology* (Revised by F. W. Gamble) .. .. 7th Ed. 1912
Parsons and W. Wright, F. G. *Practical Anatomy* .. .. 2 Vols. 1912
Pickerill, H. P. .. *The Prevention of Dental Caries and Oral Sepsis* 1912
Schönwerth, A. .. *Chirurgisches Vademekum* 1912
Stelwagon, H. W. *Diseases of the Skin* .. .. .. 6th Ed. 1911
Stothard, R. T. .. *Psychoneurology* .. .. (1) 1870
Tubby, A. H. .. *Deformities, including Diseases of Bones and Joints* 2 Vols. .. .. 2nd Ed. 1912
Tunstall, F. J. Warwick and A. C. *First Aid* .. .. .. 7th Ed. 1911
Warwick and A. C. Tunstall, F. J. *First Aid* .. .. .. 7th Ed. 1911
Wright, F. G. Parsons and W. *Practical Anatomy* .. .. 2 Vols. 1912

TRANSACTIONS, REPORTS, JOURNALS, &c.

American Association of Obstetricians and Gynecologists, Transactions of the .. .. Vol. XXIII 1910
American Journal of Obstetrics, The .. .. Vol. LXIII 1911
American Ophthalmological Society, Transactions of the Vol. XII, Pt. 3 1911
Boston Medical and Surgical Journal, The .. .. Vol. CLXIV 1911
Bristol Directory, Wright's 1912
British Medical Journal, The .. .. Vol. II for 1911
Clinical Journal, The .. .. .. Vols. XXXVII, XXXVIII 1910–11
Deutsche Zeitschrift für Chirurgie .. .. .. Bds. CVIII, CIX 1911
English Catalogue of Books, The, for 1910 1911
Hazell's Annual 1912
Journal of Medical Research, The .. .. Vol. XXIV 1911
Journal of Obstetrics and Gynæcology of the British Empire Vol. XIX 1911
Journal of the American Medical Association, The .. Vol. LVI 1911
Lancet, The .. .. Vol. II for 1911
Medical Directory, The 1912
Medical Record, The .. .. Vol. LXXIX 1911
Minerva 1911–12
Münchener medizinische Wochenschrift .. .. .. Bd. I for 1911
Nordiskt Medicinskt Arkiv 1909
Prescriber, The .. .. Vol. V 1911
Press Guide, Willing's 1912
Proceedings of the Royal Society of Medicine .. .. .. Vol. IV 1911
Progressive Medicine .. .. Vol. III 1911
Quarterly Journal of Medicine, The .. .. Vol. IV 1910–11

Revue de Gynécologie .. .. Tom. XV 1910
Wellcome Tropical Research Laboratories, Fourth Report of the Vol. A—Medical 1911
Whitaker's Almanack 1912
Year-Book of Scientific and Learned Societies 1911

MEETINGS OF SOCIETIES.

Bristol Medico-Chirurgical Society.

December 13th, 1911.

Mr. C. A. MORTON, President, in the Chair.

Dr. J. MICHELL CLARKE read notes of (1) a case of **Chronic pancreatitis** and (2) a case of **Obscure fever due to a leptothrix blood-infection.** (For the former see p. 25.) The patient with the obscure fever was a shop assistant, aged 23. He was taken ill on September 15th and convalescent on October 21st, 1911. Clinically, the symptoms during the greater part of the illness bore a marked resemblance to those of typhoid fever, with predominance of the nervous manifestations. The leptothrix bacillus was obtained in pure culture on several occasions from different veins and from the cerebro-spinal fluid. This leptothrix has been recognised as pathogenic in one case by Drs. J. Ritchie and Stuart McDonald, and in five other cases met with by the latter during an epidemic of cerebro-spinal meningitis.

Dr. CAREY COOMBS read notes of a case of the **Stokes-Adams syndrome** in a lady, aged 84, running a fatal course in ten days from the onset. Apart from the cerebral symptoms, which consisted of epileptiform and syncopal fits, hallucinations, progressively increasing stupor, and variations in the respiratory rhythm, the chief interest lay in the alterations of cardiac conductivity. In the first phase of the illness there were sudden bouts of complete auriculo-ventricular dissociation, interrupting a sequence which was normal immediately before and after these attacks. In the second phase conductivity was normal, and there were no fits. In the final phase auriculo-ventricular conductivity continuously and progressively declined. There was no autopsy.

Dr. J. O. SYMES read notes on six cases of **Pneumo-thorax.** The first two cases were instances of spontaneous pneumo-thorax following upon violent effort, and skiagrams were shown demonstrating the initial total collapse of the lung and its final restoration to complete recovery. Reference was then made to cases of artificial pneumo-thorax induced, according to Barr's method, for the treatment of obstinate recurring cases of pleural effusion. The results obtained by this method of treatment had been most satisfactory. Three cases of pneumo-thorax were described in order to demonstrate that the lesion might be complete or partial, sudden and painful, or insidious and almost painless. These were all tubercular in origin, and were but little influenced by treatment. Dr. Symes expressed the opinion that the treatment of tubercular pneumo-thorax by incision and drainage was undesirable, even if a considerable quantity of pus were present. The ultimate fate of patients so treated was often gradual failure of health and ultimate death from lardaceous disease. Lantern slides illustrating the various varieties of pneumo-thorax were shown. Dr. COOMBS alluded to two cases of pneumo-thorax due to perforation of the œsophagus which he had seen.—Dr. NIXON pointed out the importance of differentiating hernia through the diaphragm from pneumo-thorax, and cited two cases of this hernia in which diagnosis of pneumo-thorax had been erroneously made.—Dr. CLARKE said that text-books did not lead one to realise that in practice one meets with many cases of pneumo-thorax which had not a tubercular origin. He had always had the thorax drained in cases of pyo-pneumo-thorax.

January 10th, 1912.

Mr. C. A. MORTON, President, in the Chair.

Dr. WALTER C. SWAYNE read a paper on **Operations on the uterus and appendages during pregnancy** (see p. 31). In reply to a question, the speaker said that pregnancy was not a contra-indication for the administration of anæsthetics. Before giving chloroform it should be ascertained that acetone was absent from the urine. Prolonged anæsthesia might have a bad effect on the child.

Dr. C. W. J. BRASHER read a paper on **Pseudo-diphtheria due to diplococcus crassus, with reference to the use of diphtheria Antitoxin.** After referring to the present state of our knowledge of the bacteriology of the throat and nose, and the large number of micro-organisms almost always found there, against which "routine" or "prophylactic" injections of diphtheria

antitoxin were of no avail, two cases simulating severe nasal and faucial diphtheria were related. The entire absence of albuminuria was the only symptom by which these cases could be distinguished from true diphtheria. An analysis of the bacteriological reports in the Medical Officer of Health's Office during the last three months of 1911 was given, showing that out of 623 cultures :—

20.45 per cent. showed Klebs-Lœffler bacilli ;
21.1 per cent. showed suspicious forms (*i.e.* Hoffman's bacilli, etc.) ;
0.8 per cent. showed streptococci ;
whilst 76.8 per cent. showed various forms of diplococci.

It was pointed out that these figures were contrary to the usual statistics. The danger of "anaphylaxis" in cases where antitoxin was used in the absence of Klebs-Lœffler bacilli was alluded to. In replying to the remarks of Mr. A. J. Wright, Professor J. Michell Clarke and Dr. W. G. Dickinson, Dr. BRASHER briefly described "diplococcus crassus," and stated that the absence of albuminuria was the only method he could suggest to differentiate clinically this form of pseudo-diphtheria from true diphtheria.

Mr. HEY GROVES read a paper on **Some cases illustrating the difficulty and importance of early diagnosis in acute intestinal obstruction** (see p. 37).

Mr. C. F. WALTERS read notes on a case of **Intussusception in an old man caused by an intestinal polypus,** and showed the specimen.

The PRESIDENT showed a specimen of **Secondary columnar carcinoma of vagina.** The vaginal growth was first detected and then, on examination of the abdomen, there was found to be carcinoma of the pelvic colon. Microscopical sections of both growths were shown.

February 14th, 1912.

Mr. C. A. MORTON, President, in the Chair.

Dr. E. H. STACK read notes of some **Gall-bladder cases** (see p. 49).

Dr. P. WATSON-WILLIAMS read notes on **Three cases of lateral sinus thrombosis** (patients and specimen shown). Case 1.—Male, aged 37, had been subject to otorrhœa off and on for five years. The temperature was fluctuating between 97° F. and 102° F., but there was no tenderness over the mastoid. Radical mastoid operation was performed. Nine

days later the temperature rose to 104° F. The lateral sinus was exposed, and found to be thrombosed. The sinus was opened up nearly to the torcular, and the jugular vein ligatured. The patient improved for a time, but twelve days later became mentally dull, and died forty-eight hours later. The autopsy showed that thrombosis extended a short distance into the opposite left lateral sinus and along the whole length of the longitudinal sinus. There was leptomeningitis of the upper half of the cerebral hemispheres. There had been a remarkable extension of thrombosis in this case, unaccompanied by definite symptoms suggesting that condition. Case 2.—The patient, a boy of 12, had severe headache, vomiting, and tenderness behind the left ear. Temperature at night 102° F. A large mastoid antrum full of pus was opened, and some pus evacuated from an extra-dural abscess over the lateral sinus. There was no evidence of sinus thrombosis of the jugular. Case 3.—Male, aged 24. Ten days' pain in right ear, headache and rigors. Temperature 102° F. to 103° F. Large right aural polypus present. The mastoid antrum contained pus, and there was pus over the lateral sinus. After disinfection a hypodermic needle was passed into the sinus, and some clot blocking the needle withdrawn. A second deeper puncture extracted fluid blood, and on culture the blood yielded staphylococci and a few streptococci. The jugular vein was not ligatured. Uneventful recovery.—Mr. LACY FIRTH said that Case 1 seemed to show the importance of clearing out all clot towards the torcular end of the sinus, and establishing free bleeding whenever it was feasable. His practice was to ligature the jugular vein in almost all cases of thrombosis of the lateral sinus, and to do that before removing the septic material from the sinus. In Case 3 he thought there existed a little doubt as to whether or not the blood obtained from the sinus had been contaminated during its removal through incomplete disinfection of the punctured spots.

Dr. A. RENDLE SHORT read a paper on **End-results of operations for internal derangements of the knee-joint** (see p. 52).—Mr. HEY GROVES, Dr. NIXON, Dr. DONALDSON, and the PRESIDENT discussed the paper.

Dr. C. E. K. HERAPATH read notes of **A case of partial heart-block occurring in acute rheumatism.** A boy aged 16 was admitted to the Bristol Royal Infirmary on October 30th, 1911, suffering from acute rheumatism of four days' duration. He had no previous illness. The size of the heart and the heart-sounds were normal on admission, but pauses were noticed during which no heart-sounds were heard. These were proved by tracings of the jugular and arterial pulses to be due to partial heart-block. This continued for eight days, when the tracings

became normal. On November 23rd the patient had a relapse. Eight days after this he developed another attack of partial heart-block, which lasted for thirteen days. The subsequent tracings were normal. Defects in conductivity in the bundle of His have been shown to be increased by vagal stimulation, either directly or indirectly by drugs, such as digitalis. A good number of cases of heart-block have been shown to depend on vagal stimulation. In this case neither direct stimulation nor indirect stimulation by digitalis caused any increase of A—C interval. It is suggested, therefore, that the heart-block depended not on vagal influence but on actual rheumatic inflammation of the bundle of His.—Dr. CAREY COOMBS alluded to the rarity of heart-block in rheumatic fever. The lesion might be focal or diffuse in the muscle fibres. A focal lesion must be present to interrupt conductivity. A small inflammatory nodule might have formed in the bundle of His. The majority of instances of heart-block had been in males, and in patients of a later age than in the case now reported.—Dr. NIXON spoke of the difficulty of taking tracings from patients with acute rheumatism. The case showed how transitory the condition might be.

J. LACY FIRTH.
J. A. NIXON, *Hon. Sec.*

Obituary.

JOSHUA FREDERICK PARSONS, M.R.C.S., L.S.A.

WE have to record the death at his residence, Garston, Frome, of Mr. Joshua Frederick Parsons, M.R.C.S., L.S.A., on the 9th of February. He had been in failing health for some time, suffering from a heart lesion which followed after a serious attack of pneumonia in 1905.

Mr. Parson's professional career was spent entirely in Frome, where for most of the time he enjoyed an excellent private practice, and was Medical Officer of Health to the Urban District Council. He was the third son of the late Mr. Joshua Parsons, an able country doctor, who practised for many years in Beckington and afterwards in Frome, and brought up a large and highly-gifted family, including Dr. Franklin Parsons, late of the Medical Department of the Local

Government Board, and Mr. Alfred Parsons, R.A., the famous English landscape painter.

Mr. Frederick Parsons received his medical education at St. Mary's Hospital, London, where as contemporaries in his student days he had Sir Malcolm Morris and Mr. Edmund Owen, both of whom enthusiastically remember his great ability, Courageous, resourceful, with a clear-thinking head, he was in possession of every factor that made for success in medical practice.

He had qualified just at the time that abdominal surgery was making rapid strides, and having made the most of his opportunities as a student and resident at his hospital, he fostered the knowledge and skill he had acquired, and was the first in the part of the country he practised in to perform ovariotomies and other abdominal operations in the Cottage Hospital which his father and himself succeeded in establishing in Frome. In consequence of this he was well and widely known as a surgeon in his own town and the north-east part of Somerset. He was a good diagnostician and an excellent manipulator.

As a townsman of Frome Mr. Parsons was very popular, and universally liked. He was a keen sportsman, an excellent shot, and a first-rate billiard player. In his early days he was one of the best exponents of the Rugby game of football in the County of Somerset.

His social side was well developed. He was an excellent raconteur, his repertoire seemed never to be exhausted, nor did his stories lack freshness or variety.

Local Medical Notes.

Markham Skerritt Memorial.—A few years ago it was decided to endow the Chair of Anatomy as a memorial to the late Dr. Markham Skerritt, who was for many years Dean of the Medical Faculty and Professor of Medicine; but sufficient funds for this purpose did not come in, and it has been decided that the sum then collected (£337) should be handed to the University authorities for the purpose of establishing a biennial prize for original work in medical science.

Association of Alumni.—The Committee of this Association recently held in the Council Chamber of the University an Exhibition of items of Bristol interest, literary and scientific, including amongst others the works, portraits, etc., of John Addington Symonds, J. C. Prichard, Bishop Hall, Mary Carpenter, and a very interesting collection of MSS. which had been discovered in the Bristol Cathedral. During the evening a short lecture was given on each section of the exhibition, and greatly added to the enjoyment of the evening.

The National Association for the Prevention of Consumption is actively engaged in forming a library and bureau for the collection of all matters relating to pulmonary tuberculosis from every point of view and in all countries. It is intended that such information shall be available not only to members of the medical profession, but to the public at large. Valuable assistance would be rendered if Medical Officers of Health, School Medical Officers and Medical Superintendents or Secretaries of Hospitals, Sanatoria, Tuberculosis Dispensaries and Open-air Schools would kindly place the Association on their distribution list in respect of Annual Reports or other documents bearing on the question of consumption. Books, pamphlets and reprints of articles from physicians and social workers in general would also be gladly received at 20 Hanover Square, London.

A.P.M. : Ninth Congress.—The Ninth Annual Congress of the Association Internationale de Perfectionnement Scientifique (A.P.M.), under the high patronage of the French Government, will take place from the 3rd to the 31st August, 1912, in the Balkans, in Turkey and in Greece.

The Congress will be opened in Evian-les-Bains or Thonon-les-Bains (Lac de Genève), and will be continued in the following order : Venise (via Simplon), Trieste, Grottes d'Adelsberg, Agram, Belgrad, Descente du Danube, Passes de Kazan, Portes de Fer, Bucarest, Sofia, Constantinople, Mytilène, Smyrne, Athènes, Phalère, Eleusis, Corynthe, Olympia, Corfou, Bologne (via Brindisi). The last meeting will be held at Aix-les-Bains.

The programme of the Congress was published in the January number of the *Review* of this Association. A copy of this special number may be seen in the Bristol Medical Library.

For further particulars write enclosing international reply stamp 2½d. to the President, Head Office, A.P.M., 12 Rue François-Millet, Paris XVI.

Dr. GHISLAIN HOUZEL, *General Secretary.*

EXAMINATION SUCCESSES.

UNIVERSITY OF BRISTOL.—*M.B., Ch.B.:* E. V. Foss, J. R. Kay-Mouat, P. Moxey. *Part I:* G. F. Fawn, W. P. Taylor.

B.D.S.: G. F. Fawn.

D.P.H.: Thos. J. Williams.

UNIVERSITY OF LONDON.—*M.B., B.S.:* R. M. Wright, W. W. Pratt. *Part I:* H. B. Parker.

First Examination for Medical Degrees: Arthur H. Morris.

CONJOINT BOARD.—*M.R.C.S., L.R.C.P. Lond.:* T. E. Ashley, J. W. Whiteman. *Biology:* J. H. C. Eglinton. *Anatomy and Physiology:* C. N. Vaisey, J. P. Adcock. *Surgery:* L. C. Watkins-Baker.*

L.D.S.—*Chemistry:* Marjorie J. White, A. H. Virgin. *Physics:* Marjorie J. White.

I.M.S.—P. J. Veale, M.B., B.S. Lond. (2nd place).

R.A.M.C.—W. W. Pratt, M.B., B.S. Lond.) 5th place).

* Completes examination.

APPOINTMENTS.

University of Bristol.—E. W. Hey Groves, M.S., F.R.C.S., has been appointed Lecturer on Surgery to Dental students.

Bristol Royal Infirmary.—The following have been appointed :—A. E. V. Spill, L.D.S. Eng., Dental House Surgeon ; C. H. Hart, House Physician ; R. C. Clarke, M.B., Ch.B. Bristol, House Surgeon ; N. C. Scott, M.B., House Surgeon, Throat and Nose Department ; R. S. S. Statham, M.B., Ch.B. Bristol, Obstetric House Surgeon.

Bristol General Hospital.—A. C. S. Cottam, L.D.S. Eng., has been appointed Dental House Surgeon.